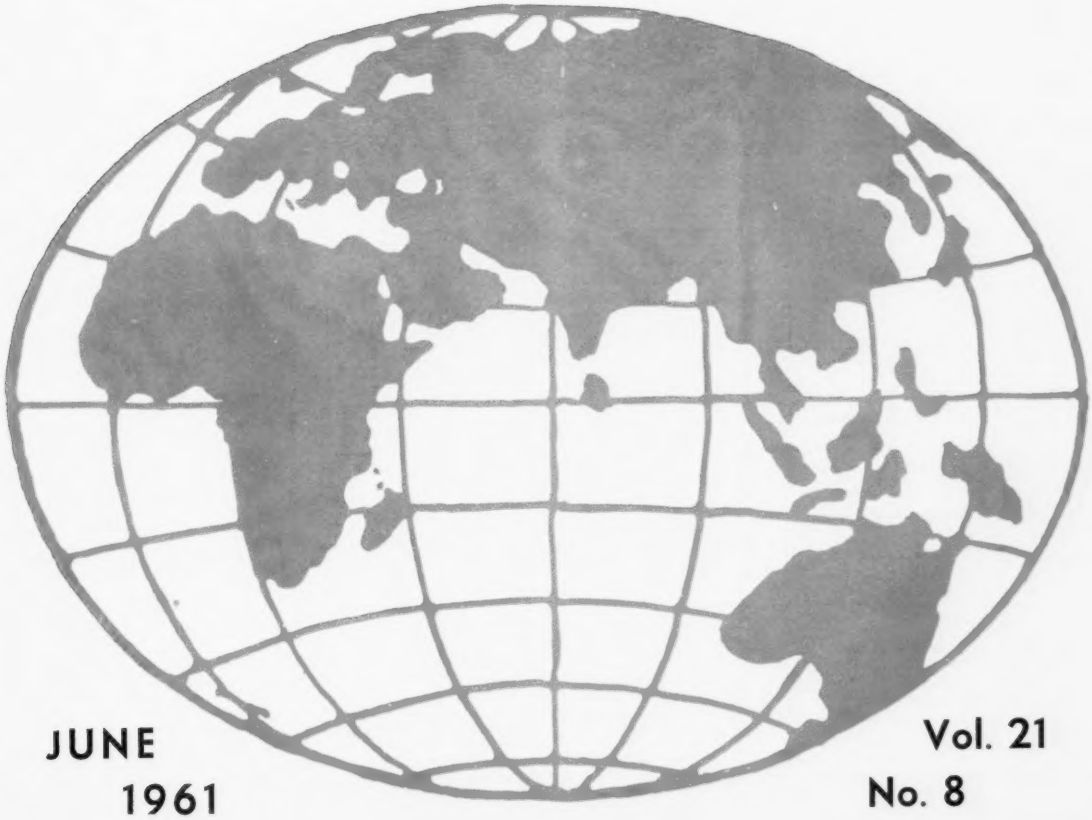
THE Soybean Digest

EXPORT ISSUE



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Vol. 21
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HUDSON, IOWA

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THE SOYBEAN DIGEST

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the members of the Association.

EDITOR'S DESK

. . . By GEO. M. STRAYER

OUR STAKE IN EXPORTS

THE SOYBEAN industry—and American Agriculture in general—is highly dependent on foreign trade for its livelihood. This special Export Issue is our means of focusing attention on the dire necessity and the great advantages of trade between nations, and on the nature of and importance of the overseas market for U. S. soybean products.

What would be the price of soybean oil in the United States today if we did not have the export markets for this commodity? And what would be the price of U. S. soybean oil if we did not have the export market for soybeans? When figured on the oil content basis we exported a good portion of our entire crop, either as oil or as beans. What if there were no export market for soybean meal?

For continuing world trade both the buyer and the seller must benefit from the transactions. The seller must have goods to offer, and the buyer must need those goods, either for direct usage or for further trading. The world has need for the oil and the protein from U. S. soybeans, which can be produced as economically as any source of commercial edible oil in the world. Through the combination of temperature, moisture, land area, mechanical production methods and highly productive adapted varieties the U. S. soybean producer is able to produce and sell his commodity into domestic and world markets at competitive prices which benefit both the producer and the buyer.

In 1959 we produced in the United States a total of 533 million bushels of soybeans. In the form of beans we exported 142 million bushels during that crop year—26.6% of the crop. We exported during that same crop year 1,554,810,000 pounds of soybean oil—which at 11 pounds oil yield per bushel figures out to the oil from 141 million bushels of soybeans. Thus, in terms of oil from the 1959 crop we placed in export markets 53.2% of our total soybean crop!

Can anyone dispute this being our major market? Prior to World War II the United States was the world's largest importer of fats and oils and oil-bearing materials. Today, principally because of soybean oil exports, we have reversed our position and are the world's largest net exporters. Without these exports of soybean oil, and assuming the same production, what would butter be

(Continue on page 5)

YOUR STAKE IN IMPORTS

IN THE WORLD of 1961, food supplies are a major item. Among those food supplies the two most scarce commodities are edible oils and fats and proteins. In most of the world carbohydrate crops are relatively more plentiful than oils and protein.

But the sources of supply of edible oils and proteins are not so abundant. And the probability of their ever being relatively abundant, compared with the world's increasing population, seems scant. The probabilities of continued expansion, through a period of time, of the tree nuts and fruits for oil purposes are very small. The large amounts of hand labor involved preclude much increase in either area or yields. As labor becomes more scarce and higher priced in the present underdeveloped areas the chances of economic production of these products becomes even more remote. India, for instance, produces millions of tons of tree nuts, seeds and fruits which contain oil. But the cost of harvesting is so great that it rules out the chances of commercial utilization.

As incomes rise and living standards move upward where, then, will the supplies of fats and proteins for the rapidly-increasing population come from? Where will the food to feed these hungry people come from? What are the potential sources of supply?

The major source lies concentrated in one place—the great area of black lands concentrated in the midsection of the United States. Here lies a unique combination of rich soils, proper temperature and moisture conditions, soybean varieties developed for high yields and high oil and protein content, farmers with the knowledge and know-how to produce increasing quantities of soybeans, and the mechanical equipment with which to produce that crop with a minimum of hand labor and a maximum of economy. No other place in the world has this favorable combination of factors today over so wide an area.

What does this mean to the buyer of oil and protein? It means a reliable source of supply, with the raw material and the finished products available throughout the year and from year to year. It means prices that are reliable and known in advance because of the futures trading available to both buyer and seller. It means reliability of quality through federally administered grades known to both buyer and seller.

(Continue on page 5)

Our Stake in Exports

(Continued from page 4)

selling for in the United States today? And lard?

The soybean industry of the United States today has been built on export trade. Every processor, every producer, every handler, every edible oil refiner, every manufacturer relies on that trade for his success. It has become an integral part of our U. S. soybean industry, yet many people do not recognize it as such. No longer can we in our industry crawl into our shell and disregard what happens in the fats and oils markets of the rest of the world.

And our very existence is dependent on imports of goods into the United States. Trade is a two-way street. If the Germans and the Japanese and the English and the Dutch and the Danes are to buy from us for dollars they must have means of earning those dollars. We must buy from them! Our sales of soybean oil, soybean oil meal and soybeans for dollars are dependent on their selling goods for dollars so they can buy our products. It is our responsibility to see that they can continue to do so. If we restrict their sales to us, we automatically restrict our sales to them. It is just that simple! The wave of Buy-Americanism that is again rearing its ugly head in our legislative halls must be curbed—and now!

Your Stake in Imports

(Continued from page 4)

Inherent in this picture is the ability of the United States to produce far greater quantities of high quality soybeans and soybean products than are now being produced—whenever the market demands such production.

The American farmer is in the soybean business to stay, and he is going to use every resource at his command to make his production profitable to both himself and the buyer who uses his product.

What is necessary to expand this trade? Continuing and expanded efforts to produce goods acceptable to the U. S. market. Volkswagens from Germany, Renaults and perfumes from France, shoes from England, typewriters and cheeses from Netherlands, radios and cameras and shipbuilding from Japan—these things must keep abreast of the demands of the U. S. market. If they do so, the U. S. customer will continue to buy, the dollars will be available, and soybean oil and soy protein can be purchased in return.

From the standpoint of the buyer of soybean products trade must also be a two-way street. The United States cannot sell unless the overseas buyer can get the commodity as wanted, and has the dollars with which to pay. Then both sides profit.

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ASA's 41st Convention Aug. 28-29

IT'S JUST LIKE going home when the American Soybean Association returns to Indiana for its 41st annual convention this year.

The convention will be held at the Claypool Hotel in Indianapolis Aug. 28 and 29.

Indiana has been a leading soybean-producing state since the early days of soybean growing in this country. Last year the state stood second to Illinois in the nation in total soybean production—squeezing out Iowa by about 1 million bushels. For many years Indiana has ranked among the top three or four soybean producing states. Production has come up by almost 50% since 1950, not far behind the national average.

But ASA's tie with Indiana is even more intimate. She was the birthplace of ASA, and the Association's first president was a Hoosier, Taylor Fouts. The first convention was held on Mr. Fouts' Soy Land Farm near Camden, Ind., in 1920.

A measure of the state's contributions to the Association and the soybean industry is the fact that three other Indianans have served as ASA presidents, K. E. Beeson, Lafayette; Ersel Walley, Fort Wayne; and Chester Biddle, Remington. And a fourth, J. B. Edmondson of Danville was secretary and a member of the board of directors for many years. Six Hoosiers have been elected to honorary life membership in the Association.

The last convention was held in Indiana, at Purdue University, in 1952, and previous to that, at Purdue in 1942.

The Purdue Agricultural Experiment Station (and leading soybean men such as Keller Beeson, J. B. Peterson, G. H. Cutler, A. H. Probst, and Kirk Athow) for many years has played a prominent role nationally in the field of crop and livestock production, and of soybeans in particular.

Indiana soybean yield contests have been held each year since 1940, and have produced some of the nation's highest yields. George Maddox of Benton County produced the state's alltime record yield, 63.6 bushels in 1954.

Indiana is also a center of soybean processing, with six plants in the state, at Angola, Decatur, Fort Wayne, Frankfort, Lafayette, and Indianapolis. Central Soya's main office is at Fort Wayne, and the firm's chemurgy division has a plant at Indianapolis.

The Convention City

Indianapolis, the state's capital and principal industrial, wholesale, and retail center, is truly the crossroads of America with many U. S. and state highways through and around the city. Indianapolis will have more interstate highways than any other city in the United States when they are completed. Some will be in use this summer.

Indianapolis is probably closer to the geographical center of the soybean belt than any other city that could be picked. Lincoln, Nebr., Minneapolis, Minn., Kansas City, Mo., Norfolk, Va., Raleigh, N. C., and Mobile, Ala., are all approximately the same distance from Indianapolis. And the soybean growing area of Canada is closer than any of these. Wherever you are, Indianapolis is not a great distance away.

Convention Hotel

The Claypool, the convention hotel, has ample facilities for a large convention, can accommodate up to 1,000 people in banquets and meetings. The hotel is all air-conditioned and provides handsomely for the comfort of convention attendants.

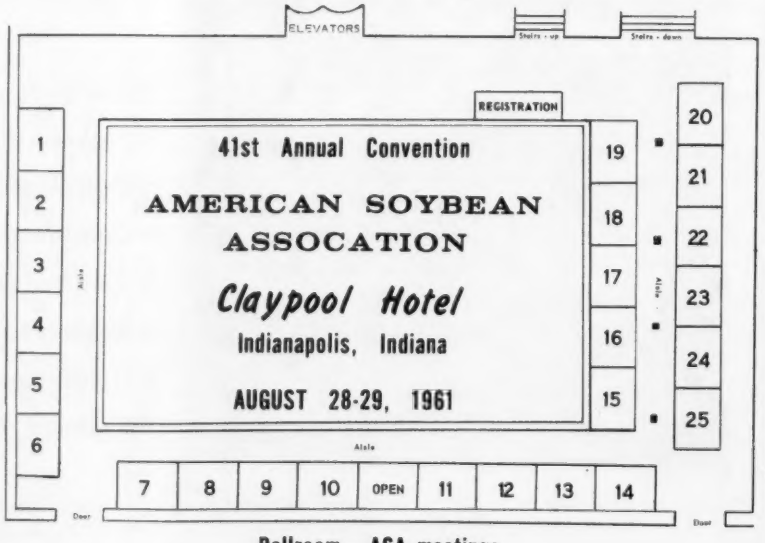
Convention Exhibits

Again, the exhibits will be the informal center of activity of the soybean meetings Aug. 28-29. Firms serving the industry will be represented. All exhibits will be on the mezzanine floor, along with the general meetings, as shown in the diagram below.

For your choice of available exhibit space contact: Geo. McCulley, business manager, American Soybean Association, Hudson, Iowa.

First come, first served.

FLOOR diagram shows exhibit booths and meeting room.



Ballroom - ASA meetings

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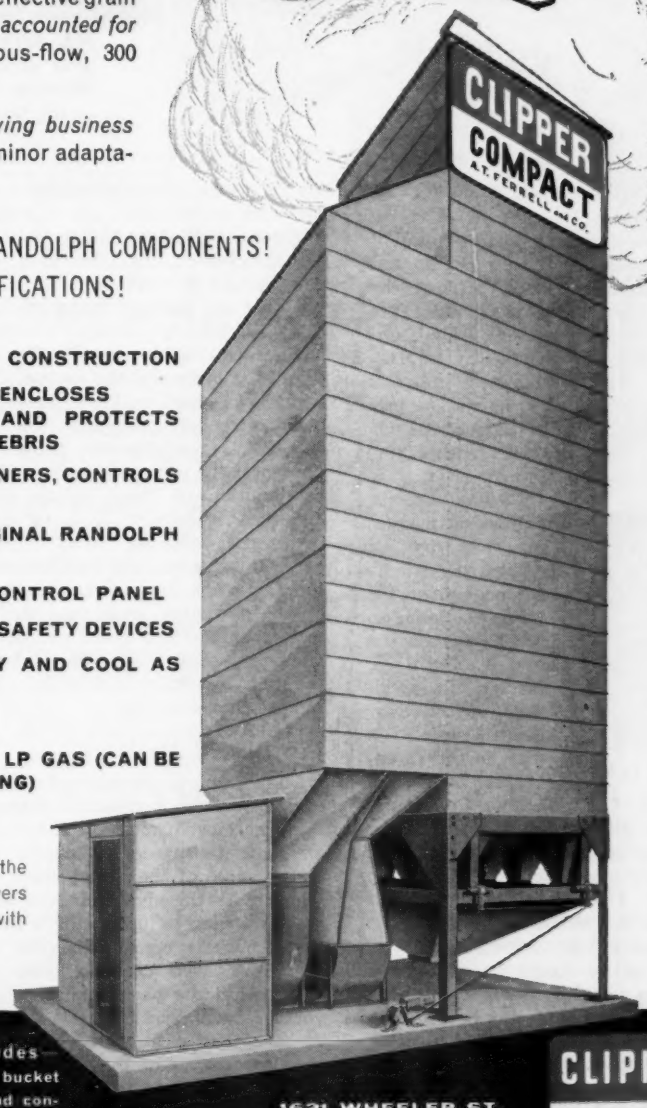

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People Want More Protein and Oils

By HOWARD L. ROACH

President, Soybean Council of America
From speech before the International Association of Seed Crushers' Congress, Stockholm, Sweden

MR. ROACH (left) and Dr. J. L. Krider, vice president of the Soybean Council (center), with Prime Minister David Ben-Gurion of Israel during a visit to the latter's home.

BUSINESS responsibilities for the Soybean Council of America have caused me to visit a total of 29 countries located in South and North America, Asia, Africa, the Middle East and Europe since the first of December 1960. I shall endeavor to bring to you my impressions, verified by business interests within each country, as well as my colleagues, as to the status of the oilseed crushing business within this group of nations.

Howard L. Roach

I was accompanied on part of my trip by an eminent American economist, Dr. Louis H. Bean, on other legs of the trip by Dr. J. L. Krider, vice president of the Soybean Council on loan to the Council by his own company, Central Soya Co., while on other portions of the trip I had as consultants various qualified staff persons from the Soybean Council. I mention these facts in order to let you know the opinions expressed are not mine alone.

"The newly found knowledge on nutrition, which is being widely disseminated and is beginning to reach all people of the world, is creating an unsatisfied desire for more protein; in some areas protein from the animal kingdom, such as meat, poultry, eggs and dairy products, while in other areas, due to religious beliefs and/or economic conditions, the people demand and will be satisfied with protein from the vegetable kingdom, such as legume seeds properly processed. In either case, the chief source of protein is from the seeds of oil bearing materials and this, of course, means increased business for seed crushers. Knowledge of protein and the amino acids which, combined, make up the complex nitrogen compound we call protein, is teaching the people of the world the necessity of the proper combination of these amino acids and the necessity of applying them in proper amounts. Most persons here, I am sure, are familiar with the fact that the soybean contains all of the amino acids necessary to proper animal and human nutrition and is the only oilseed thus far discovered by science that has this unique characteristic.

Use Oilseed Meals

The complete amino acid content of protein from soybeans is enabling some nations to mix soy flour with wheat flour, supplementing the low lysine value of the protein found in wheat with the high lysine value of soy, and thereby producing a bread that is much more satisfying and nutritious. Two nations I have visited within the past 6 months have enacted laws requiring the mixture of soy flour with wheat flour, for they are aware of the dangers and detrimental effect of low protein diets to their population, particularly children.

Experiments are going forward by United Nations International Children Emergency Fund, World Health Organization and other international organizations on the utilization of locally available oilseed meals, either alone or admixed with soy to fill the desire for more protein of high quality.

The populations of China, Japan and other oriental nations prepare dishes directly from the soybean and have acquired a taste for soy through the more than 3,000 years of their association with soybeans. The Soybean Council has recently established a test kitchen where taste panels evaluate soy dishes and dishes containing soy, for persons with both oriental and occidental backgrounds and are devising ways and means through research of making the high protein soybean delicious for all people. The personnel of the Council are also compiling an international cookbook of tested and approved recipes to be used by both the housewife and those responsible for group feeding, as a guide in the preparation of food containing soy products. When completed, sections of this volume will be published in English, Spanish, French, German, Arabic and other languages and will be made available to all people of the world through the international offices of the Soybean Council. This service will mean more business for oilseed crushers.

It is not the purpose of the Soybean Council to foster education on nutrition regarding soybeans alone, but rather to foster better nutrition for all, using soybeans where necessary. We know that we have a

responsible part to play in the drama of the exploding population of the world, and proteins from all sources will be needed.

It is not the purpose of the Council to try to displace other fats and oils, but rather to encourage greater consumption where needed. We wish to see soy oil occupy its deserved place in the increasing demand for fats and oils in the diets of the people of the world.

Studies of available statistics show that as the standard of living of people in a nation rises, so does the demand for fats and oils for food, up to a certain saturation point. FAO reports show that the average dietary consumption of fats and oils in certain countries is as low as 9 pounds per person per year, while the inhabitants of other nations eat as much as 70 pounds per person per year. The edible fats and oils consumption in the United States has remained stable for a number of years at 45-46 pounds per person and we believe the saturation point has been reached. With some people there has been a slight decline in the past 2 years as publicity has been given through the press and other media about the relative value of saturated versus unsaturated fatty acids and their effect on the cholesterol content of the blood.

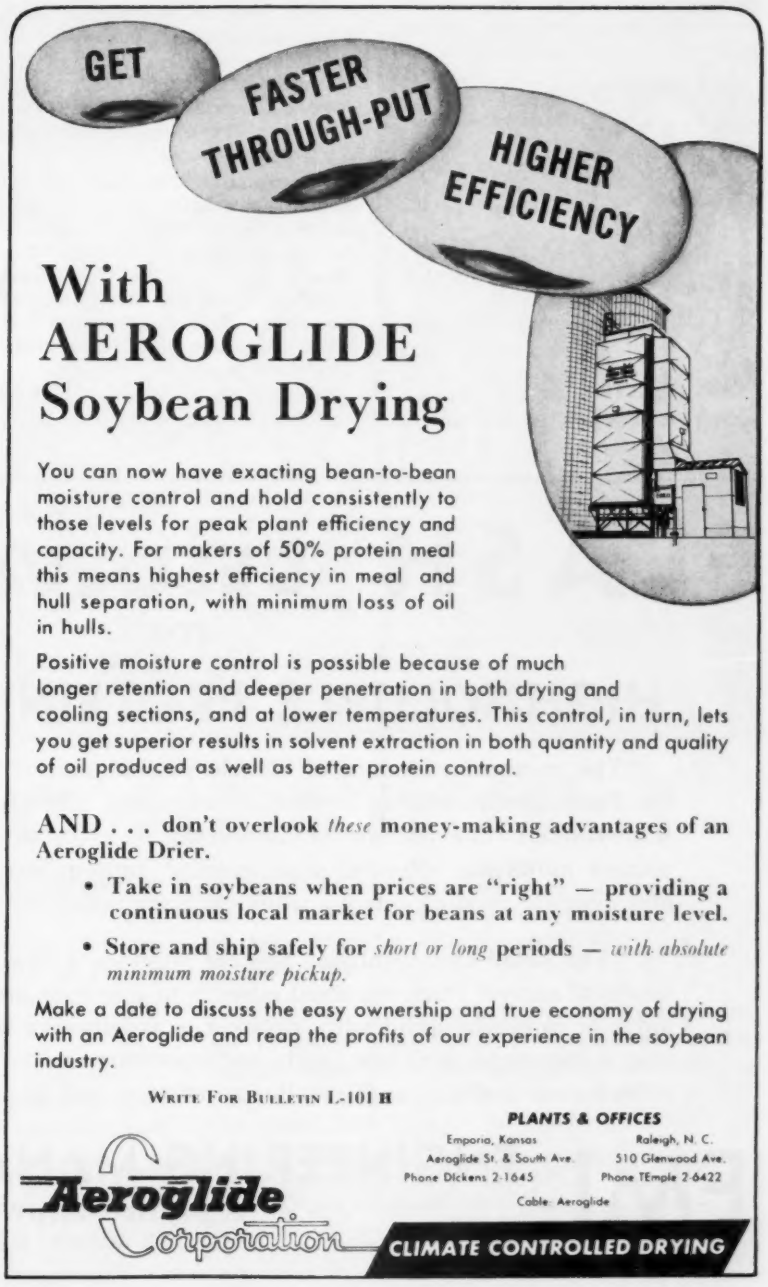
Standard Rising

I can report to you that, for the most part, the standard of living of the people of the world is being raised. This is evident by increased food supplies, greater business activity, new roads, new buildings and other indexes. This means that the consumption of fats and oils will increase faster than the population and there will be more work for the oilseed crushers of the world.

Some people want their fat as vanaspati, some as margarine, some as shortening, while some want fluid oil and some want a combination of all. Regardless of how vegetable oils are processed, they must first come from an oilseed grown by farmers. To supply this increased demand, agriculture and the oilseed crushing industry must work together. It is on this principle of working together that the Soybean Council of America has been organized. Farmers, crushers, handlers and all responsible for the production and distribution of the soybean and soybean products are united together to tell the people of the world how soybeans, either as protein and/or fats and oils can supplement their existing diets and make their lives more useful and enjoyable.

As the Council goes forward around the world, on an educational program to improve the nutrition of all people, we in the USA are being backed by our own Department of Agriculture. This year of 1961, incentives and programs have been devised to increase the production of soybeans on the farms of the United States. We solicit the cooperation of this Congress to help the Council in this project, which is aimed at more and better food for all people. We are looking forward to a record-breaking crop of soybeans to be harvested this fall. Crushers everywhere have much to gain and nothing to lose.

In conclusion, let me say that the demand for more protein by the peoples of the world is urgent, the possibilities for increased consumption of fats and oils is tremendous, and the opportunities for seed crushers to meet these two challenges is greater than the industry has ever experienced to date.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1961 IS WORLD SEED YEAR

By DR. A. W. YOUNG

President of the International Crop Improvement Association. Texas Technological College, Lubbock, Tex. From Crops and Soils.

NINETEEN hundred and sixty-one is World Seed Year. Its commemoration presents an important challenge to the agronomist, pathologist and seed technologist, and to the seed grower himself. All must unite in this humanitarian movement to promote the use of good seed throughout the world.

The proverb, "Today's Seed Is Tomorrow's Harvest," is a truism which falls with vicious impact on many of the "have-not" nations of this world in which we live.

In densely populated, less developed countries of the world, the seed problem is so urgent that it becomes a matter of life and death. Crop failure owing to inadequate amounts of seed—or even use of poor quality seed—can, and does, lead to starvation and malnutrition for many innocent men, women and children.

Just seed is not enough. These countries need good seed of high-yielding, well-adapted varieties to boost their agricultural production.

Good seed is fundamental to a strong agricultural industry; to the social and economic stability of any nation. Yet many of the less developed countries of the world have little or no provisions for a dependable supply of seed.

Recognition of these facts has led many international groups to join hands with the Food and Agricultural Organization of the United Nations in promoting the World Seed Campaign. National Seed Campaign committees have been named and called into action in all major countries of the world.

Dr. Hugo O. Graumann, chief of the Forage and Range Research Branch of USDA's Agricultural Research Service at Beltsville, Md., is chairman of the World Seed Campaign committee for the United States.

One of the major objectives of the campaign is to bring to the attention of all farmers and agricultural agencies the value of high-yielding varieties of adapted crops. Encouragement is needed in wide-scale use of field demonstration, education, publicity and all other possible means available to promote the use of good seed.

Thus, it is through the World Seed Campaign that seedsmen are being given international recognition for their invaluable contribution to human welfare.

Certified seed growers of the United States and Canada have led the world in production of high-quality seed of improved varieties. A large part of the magnitude and prosperity of the agricultural industry in this part of the world has been possible because of the continuous supply of high-quality seed.

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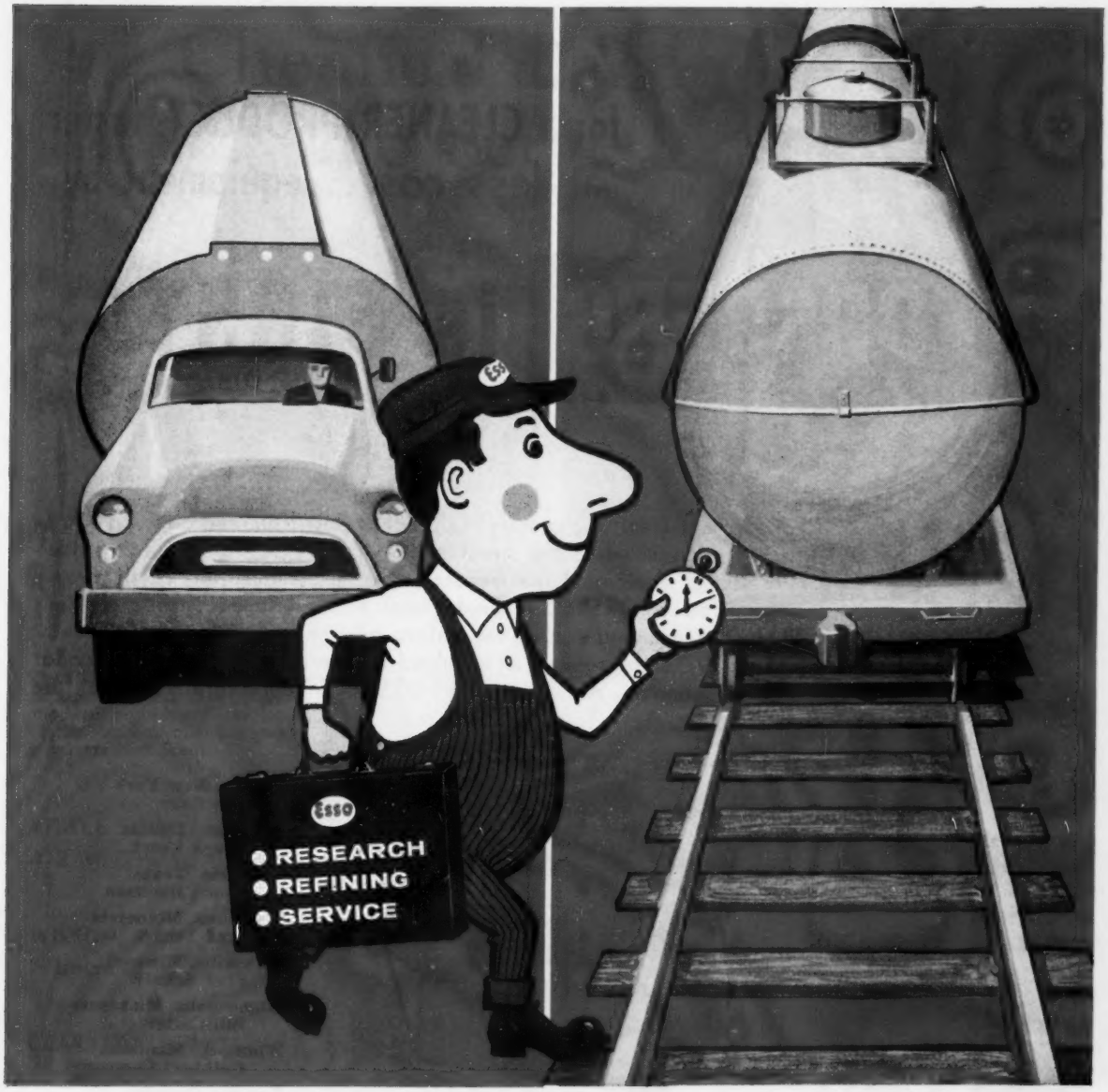

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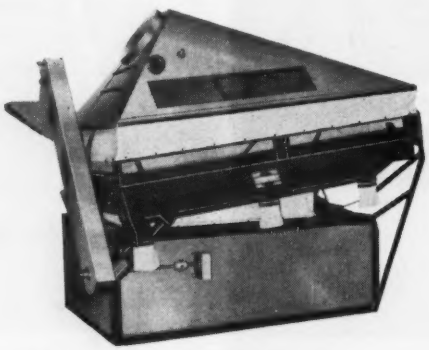

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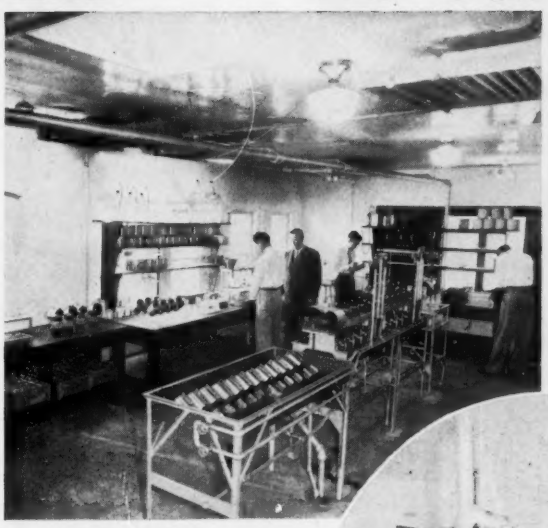

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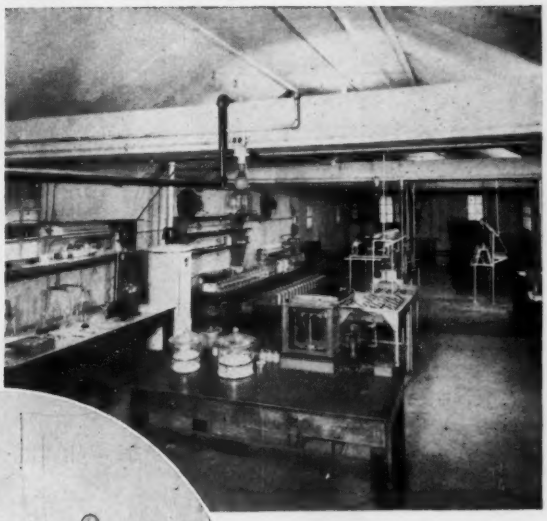

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THE NEWS IN BRIEF

THE CROP, MARKETS AND OTHER ITEMS OF NOTE

Soybean Acreage Outlook

A total planted acreage of over 27 million acres of soybeans, a million above the Department of Agriculture's Mar. 1 planting intentions report and 3 million more than 1960, seemed a very conservative assumption as the Soybean Digest went to press.

Final acreage could go well above this figure due to this spring's market enthusiasm and the $2.30 support price, and a possible diversion of acres from small grain, corn and cotton to soybeans if the weather continued unfavorable for planting these other crops.

Our reprots from 15 of 31 soybean-producing states would indicate that about 600,000 more acres than were estimated by USDA might be planted to beans in the states reporting. The reports were mostly local and not necessarily representative of the states as a whole.

Areas where it appeared continued unfavorable weather might divert other crop acreage to soybeans included the Midsouth, North and South Carolina and Georgia, northern Iowa, Minnesota, Kansas and Ohio. Demand for seed was strong, and the supply low some places.

Acreage up In Kansas, Nebraska

There will be a big soybean acreage increase this year in Kansas and Nebraska—from 25% to 35%—according to our reports. B. E. Henline, Soy-Rich Products Co., Wichita, sees the Kansas increase as due to the recent high prices and the $2.30 support price, low income from soil-depleting milo and a trend to a sounder rotation program that includes soybeans.

Swinbank and Furrer, Nebraska State College of Agriculture Extension agronomists, say the late spring also favored soybeans in Nebraska. Demand for seed was reported 40% to 50% ahead of last year in Kansas, and good seed was about gone in Nebraska by early May.

Soybean planting was well under way in nearly all sections June 11, but reports of progress varied widely, from just starting to almost completed. Warm weather was needed, and in some places, a cessation of rain. Walley Agricultural Service, Fort Wayne, Ind., said the odds favor slightly lower yields per acre of all crops than we have enjoyed the last few years.

Outlook for Exports Rest Of Year

The United States is expected to ship abroad about 1,500 million pounds of cottonseed and soybean oils in 1960-61, compared with the previous high of 1,456 million established last year. **An expansion in sales for dollars** as compared to shipments under government programs **is taking place,** and over half the oil moving out in 1960-61 will fall within this category, in sharp contrast to some recent marketing years.

The improvement in the Spanish economy and increasing quantities of foreign exchange earned by exports of olive oil are enabling that country to expand its dollar purchases of U. S. edible oil. Spain continues to be the major recipient of edible oil under government programs, followed by Pakistan, Yugoslavia, Poland, Greece, Egypt, and Israel.

U. S. exports of oilseed meals in October 1960-September 1961 are likely to be 25% to 30% below the record 867,000 short tons that moved abroad last year, but still more than in most previous years.

Exports to Canada, our most important single market for meal, are holding up relatively well because of higher hog numbers, but Western Europe is taking much less. In Western Europe reduced feeding of oilseed meal to dairy cows will more than offset greater consumption by hogs and poultry. Price trends in the United States and Western Europe since early last fall have not been encouraging exports of U. S. meals.

World cottonseed production in the marketing year that closes July 31 is estimated at a record 22.9 million short tons, slightly larger than the previous high of 1959, according to USDA. Major increases are in India and Mexico.

World lard exports in 1960 were 902 million pounds, an increase of 4% over 1959, with the United States accounting for 69% of the trade in lard.

Prospects For Soybean Carryover

Carryover of 1960-crop soybeans into next crop year will be about 5 million bushels, down sharply from 23 million last year, according to USDA. **Prices will probably remain stable this summer,** averaging well above the same period last year.

Based on present indications, production of soybean meal will total around 9.5 million tons during the 1960-61 season, of which about 9 million tons will be fed to livestock, 7% more than in 1959-60 and a new record. (For further outlook information see George Peter's column on page 54.)

Last of April stocks of soybean oil totaled 680.4 million pounds, up from 624.7 million pounds a month earlier; and cottonseed oil stocks were down a little, to 432.6 million pounds from 447.6 million, according to Bureau of the Census figures.

Outlook for Soybeans, Meal, Oil

Quoting L. R. Brewster, General Mills, Inc., Minneapolis: "It is my firm belief that the price of soybeans will remain strong until new-crop supplies are in sight. The big question mark is whether the July option will come down to meet the September or will the September option move up to meet the July? I believe it will be a combination of the two.

"Soybean meal prices may hold near their current level for the next weeks but . . . as the July option works lower, meal prices will follow the same pattern. As processors begin to scrape the bottom of the bins in August and September and the meal supplies are not as plentiful as they are now, prices should strengthen provided animal units are still large.

"Soybean oil will likely remain fairly strong for the balance of the crop year."

Textron, Inc., a widely diversified company, plans to acquire Spencer Kellogg & Sons, Inc., Buffalo, N. Y., processor and mixed feed manufacturer, according to a joint announcement by Rupert C. Thompson, Jr., chairman of the board of Textron, and Howard Kellogg, Jr., chairman of the board of Spencer Kellogg. Spencer Kellogg, a major soybean processor, has been operating since 1894. Administrative offices and the research center are located in Buffalo, N. Y.; and principal plants are in Bellevue, Ohio; Decatur, Ill.; Des Moines, Iowa; and Minneapolis, Minn.

Archer-Danials-Midland Co. has announced a higher price schedule for Ardex 550, new protein product, due to higher raw material costs brought about by the new support price on soybeans. "We can see no long-term economic relief with this new support base," says ADM.

There will be more pre-emergence spraying of soybeans this spring, according to our reports. Some spraying will be undertaken this spring in most localities reporting.

A brief requesting a support price of $2.50 per bushel for Ontario soybeans sold between July 1, 1961, and June 30, 1962, has been presented to the Canadian government by the Ontario Soya-Bean Growers Marketing Board. The support price has been $2 for the past 2 years.

The annual meeting of the Midsouth Soybean and Grain Shippers Association will be held at Hotel Peabody, Memphis, Tenn., Aug. 1-2, according to Paul C. Hughes, secretary, Blytheville, Ark.

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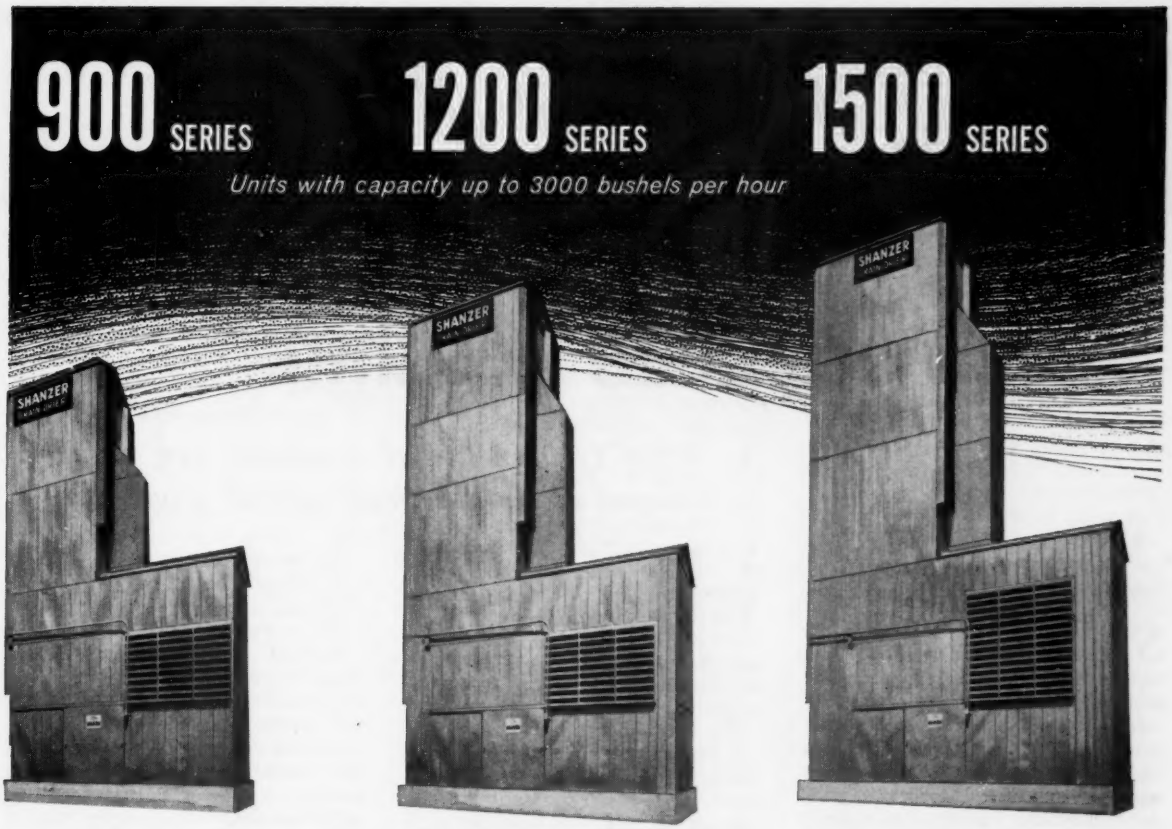

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JUST A FEW of the products employing soy lecithin.

Soybean Lecithin

Soy Lecithin is used as nature's own blending agent in a wide variety of food products

By H. T. IVESON
Manager lecithin products, Central Soya

SCIENTISTS, the world over, are daily learning more about the nutritional requirements of man, and our food manufacturers are constantly attempting to incorporate these ideas into our food products. In almost every case a blending agent is indicated in order to produce products having the correct characteristics and consumer acceptance. The chemist, of course, can devise many such blending agents, but materials that are acceptable, nutritious, food ingredients are few. Of major importance in this category is nature's own blending agent, soybean lecithin, which is widely used as an emulsifier and dispersing agent in all types of food products.

H. T. Iveson

Originally isolated from brain tissue and egg-yolk, the phosphatides remained a laboratory curiosity until they were discovered in vegetable seeds, especially soybean. It had been observed that when soybean oil was allowed to stand, it picked up moisture and a sludge separated. This sludge was readily subject to decomposition and was of no practical value to the refiner.

The Bollmann patents assigned to Hanseatische Muhlenwerke Akt. Ges. first described a simple means of refining these oils and producing lecithin in a sufficiently pure and stable form to be industrially useful. Even so, this product was only slowly accepted by the food industry since it was a greatly inferior product to what we have come to expect from today's production. It was soft plastic to hard solid and nonuniform in consistency. Usually it was very dark, sometimes black in color and had a very strong taste and odor.

Much progress has been made since then. The quality has been greatly improved to where the color is dark yellow to orange brown and most odor and taste have been removed. Furthermore, lecithin products have been developed which can be more easily adapted to present food processes. In addition, variations in composition of the basic product have led to many new applications in the food field.

The natural or crude grades of lecithin are usually prepared from freshly extracted soybean oil by the addition of moisture. The emulsion produced is dried under vacuum at comparatively low temperatures, which gives a material with an approximate composition of:

20% Phosphatidyl choline
20% Phosphatidyl ethanolamine
20% Inositol phosphatide
35% Soybean oil
5% Sugars, sterols, moisture, etc.

Products of this type can be produced to various color specifications by bleaching with hydrogen peroxide and/or benzoyl peroxide. The consistency can be adjusted from the normal plastic to a very liquid product by the addition of fatty acids and oils.

More recently, because of the demands of manufacturers for ingredients in a powdered or granular state, products have been devised containing lecithin in this form. Generally it is done by dispersing the natural lecithin in or on a dry carrier such as milk solids, soybean protein, or soy flour. The concentration of lecithin in these products varies from 3% to as high as 50% and if the carrier also contributes to the final product this is a convenient although not necessarily inexpensive means of using lecithin.

Some Limitations

In spite of the many variations mentioned above, certain limitations have been found in the applications of these unmodified lecithins in foods. Many times they are not as effective as desired either because of the methods of incorporation or because they are not sufficiently concentrated. The newer modified

lecithin products that have been devised to eliminate these difficulties are probably of most immediate interest to our readers.

Natural, commercial lecithin is a complex mixture of phosphatides with impurities such as soybean oil, moisture, etc. Not only do these phosphatides have somewhat different properties, but the mass is fixed in a definite orientation pattern which limits its functions. Change in these characteristics can without doubt be brought about by the food manufacturer if he desires. Generally, though, they do not wish to spend the effort nor do they feel that it should be necessary. Thus, if lecithin is to find its deserved place in the food field, the lecithin producers must supply products which are effective.

Possibly the simplest and most direct method of approaching this problem is to combine lecithin with other surface active agents. In this manner the orientation is disturbed and one or more properties can be emphasized.

Lecithins that are water dispersible and that will disperse solid particles into water are products of this type. More hydrophobic lecithins have also been produced. Mixtures with monoglycerides that are more effective as emulsifiers for bread and other bakery products have been designed.

Chemical Modification

Actual chemical modification has also been used in order to obtain more desirable characteristics in our base material. There are many reactions which come to mind that might occur with a molecule such as lecithin. Yet experience has proven that if the base molecule is destroyed during the reaction, one loses more than one gains. Destruction of the lecithin molecule is easy so we will only consider those very mild chemical reactions that can be performed without destruction of the lecithin. This limits the field to a few products of commercial value.

Probably of most importance in this group is hydroxylated lecithin which has been treated in such a manner that the water attracting groups are more closely balanced with the oil attracting groups. Thus the emulsifying ability is enhanced even though most of the other properties remain the same. These hydroxylated lecithins have found wide application in the food industry as more effective emulsifiers and release agents.

Another product of this type is hydrogenated lecithin. Since the fatty acids in soybean lecithin are highly unsaturated, hydrogenation produces an effect similar to that shown on unsaturated oils. A very hard plastic product is produced which can be powdered or granulated if desired. Hydrogenation increases the stability to oxidation and changes many of the solubility characteristics of the lecithin, but apparently does not change the surface active character of the molecule. It is to be expected that this type of lecithin may be more effecive in ice cream products and cakes than the more unsaturated natural lecithin.

Solvent Separation

Another means of modifying the phosphatide complex is by solvent separation and concentration of the components. Many times it has been found advantageous simply to remove the soybean oil present in the natural product and replace with another carrier. Apparently this changes the molecular orientation sufficiently so that the resulting product acts more effectively.

The phosphatides, themselves, can also be separated in order to emphasize the individual properties. In this manner a composition of matter is isolated that is a superior oil-in-water emulsifier and more effective in dispersing solid materials. This product has an analysis similar to egg-yolk lecithin and in many applications has a similar behavior. Its approximate phosphatide composition is:

60% Phosphatidyl choline
30% Phosphatidyl ethanolamine
2% Inositol phosphatides
4% Soybean oil
4% Miscellaneous

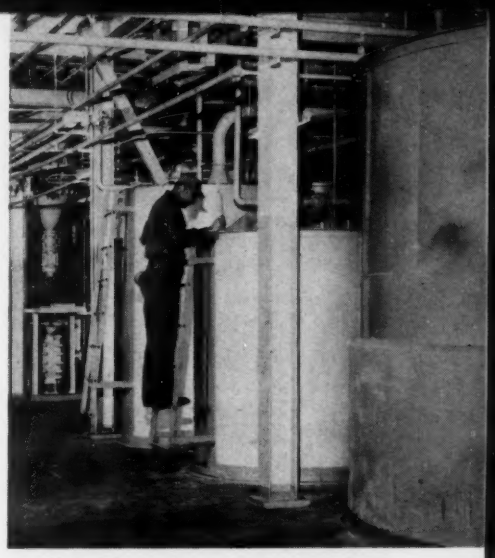
Of course in commercial practice this material is produced in a carrier so that the above percentages are changed accordingly.

Another concentrated phosphatide product which is available is one that will form superior water-in-oil emulsions. In addition this is the most bland lecithin available and more stable than most. Its phosphatide composition is approximately:

4% Phosphatidyl choline
28% Phosphatidyl ethanolamine
55% Inositol phosphatides
4% Soybean oil
9% Miscellaneous

Lecithins of this type have found use in margarines, pan greases, peanut butters and other table spreads.

Now before leaving the subject of lecithin we should mention in somewhat more detail the general applications in the food field. In the baking industry lecithins are used to modify the gluten characteristics of the flour. They also act as emulsifiers, wetting agents, and antioxidants. Experience has shown that they are effective in very low concentrations of about 0.1% to 0.3%.



HOLDING tanks for soybean oil. Lecithin department, Central Soya.

In candies, lecithin finds particular value for chocolate processing. When 0.25% to 0.5% of lecithin is used in chocolate, it is possible to drastically reduce the viscosity, thereby saving additional cocoa butter. Lecithin also finds value in fat-containing candies such as caramels, brittle, nougats, and taffies where it aids in the blending of ingredients and prevents graining and streaking.

Lecithin is almost universally used in the production of margarine as an antispattering agent. Generally the amounts used are limited by law to about 0.5%. In most instances the margarine manufacturer finds that lecithin solves all of the emulsion problems without additional emulsifiers.

In various table spreads, such as peanut butter, lecithin is used as a blending and stabilizing agent. Usually 1% to 2% of lecithin is effective in making a smoother, creamier spread that will not separate even under wide temperature variations.

The ice cream manufacturers also find value in lecithin in improving smoothness and prevention of "sandiness" on storage. Again small amounts appear to be effective usually around 0.1%.

Finally when anyone wishes to disperse rapidly any of the dried foods such as cocoa, lecithin in amounts of 0.5% or greater has been generally used.

From this resume it becomes apparent that when one considers the contribution of the soybean to our food supply one can hardly ignore the potentialities of soybean lecithin.

Southern Rhodesia boys and MPF.

Multi-Purpose Food

Valuable aid to improved nutrition

By FRED H. HAFNER

Director of Protein Operations, Specialty Products Division, General Mills, Inc.

MALNOURISHMENT is regarded by many as the No. 1 problem in today's world. Evidence of widespread concern over this problem can be found in the stepped up programs of the United Nations (FAO) in its Freedom From Hunger campaign and the U. S. government in its Food for Peace program.

Recognition is being given to the fact that proper utilization of available foods can go a long way toward alleviating malnutrition, particularly in areas where the intake of essential nutrients is sub-optimal. Much emphasis is being placed on protein foods and as a result oilseeds, fish, milk and pulses are emerging as primary plentiful sources of this valuable nutrient. Of these protein foods, oilseeds—particularly soybeans—seem to offer the most practical and least costly source of dietary protein immediately available in substantial quantity as human food.

Fred H. Hafner

Recognizing that protein is not the sole dietary deficiency of Southeast Asia, the Middle East, Africa, Philippines, Latin America and the West Indies, food products, based on oilseed proteins and designed to supply all essential nutrients likely to be deficient in diets of these areas, are being made available for use in these areas. Incaparina is one such food product based on cottonseed flour. Indian Multi-Purpose Food is another, based on peanut flour and Bengal gram (a pulse). However, the one which has been in existence the longest is American Multi-Purpose Food (MPF) based on heat-treated soy flour and soy grits.

Developed by the eminent biochemist, Dr. Henry Borsook of the California Institute of Technology at Pasadena, Calif., American MPF has been distributed since 1946 by the Meals for Millions Foundation of Los Angeles worldwide as an example of how abundantly available oilseed protein properly fortified can be utilized to help overcome dietary deficiencies which exist more as a result of ignorance than from a lack of nutrient sources. Pioneers in the field of world feeding, Meals for Millions recognizing that malnutrition is 100% preventable has contributed much toward combating malnutrition where it exists. As a result, MPF now is in production in India, Brazil, Japan, Mexico and the United States. India's third 5-year plan contains proposals for 15 additional MPF units.

Type of Food Needed

Other countries — Tanganyika, Philippines, Egypt, Union of South Africa, Rhodesia — are in various stages of a program to make MPF available while numerous others are exploring the possibility of initiating a program. MPF is gaining stature with each passing year as more and more officials learn of the value of MPF as a basic food for combating the ravages of malnutrition in their country.

In a recent issue of Nutrition Reviews, Dr. Frederick Sai of Ghana described what he felt was the type of food product needed to meet the dietary deficiencies of the malnourished masses in Africa and other areas where the principal component of the diet is carbohydrate. He listed these desirable properties:

1—Adequate content of essential amino acids. 2—No toxic principles. 3—Must be stable and easy to store. 4—Must be easy to use or prepare. 5—Low cost. 6—Must be acceptable to the people. 7—Must be made available. 8—Must have prestige value. 9—Must not violate dietary or religious taboos. 10—Government and medical personnel must be educated to recognize value of food. 11—Population must be educated to recognize value of food.

What Dr. Sai probably did not realize when he wrote his article was that the food he described already existed. MPF meets all the prerequisites listed by Dr. Sai with the additional advantage of not being new but having been used during the past 15 years as an example of how an abundantly available plant protein, properly fortified, can help to overcome dietary deficiencies in all parts of the world at relatively little cost.

Since 1946, the nonprofit Meals for Millions Foundation has distributed over 62 million 2-ounce servings of MPF to 127 countries. Such eminent men as Dr. Albert Schweitzer (Gabon), Dr. Glenn Tuttle(Congo), and the late Dr. Tom Dooley (Laos) praised MPF for its value in treating severe cases of protein starvation (kwashiorkor) and in meeting dietary needs of the malnourished which were treated at their hospitals.

Since 1959, General Mills (GMI) has been manufacturing MPF for MFM as well as promoting its use in the U. S. A. and abroad.

What is MPF? MPF as produced in the United States consists of heat-treated soy grits or soy flour blended with essential vitamins and minerals so that each 2-ounce (56.7 gram) portion provides the following levels of nutrients (see top page 21):

Vitamins C, B-6 and B-12 were added to the formula with the permission of Dr. Borsook.

MPF has the following percentage composition:

Protein (NX6.25)	50%	Ash (Mineral)	6.5%
Fat	1%	Carbohydrates	31.0%
Fiber	3%	Calories	150 in 2 oz.

A 2-ounce portion (dry weight) can be provided for as little as 3¢.

	Quantity in 2 oz.	% RDA	% MDR
Protein	28.0 GM	40	***
Vitamin A	1667 IU**	33⅓	41.7
Thiamine	0.53 Mg	33⅓	53.0
Riboflavin	0.60 Mg	33⅓	50.0
Niacin	7.00 Mg	33⅓	70.0
Vitamin C	25.00 Mg	33⅓	83.3
Vitamin D	167 IU**	****	41.7
Calcium	267 Mg	33⅓	35.6
Phosphorus	250 Mg	****	33.3
Iron	3.33 Mg	33⅓	33.3
Iodine	0.033 Mg	****	33.3
Vitamin B-6	0.33 Mg	****	***
Vitamin B-12	0.85 Mcg	****	***

* 2 oz. dry weight = 56.7 grams (approx. ⅓ cup). **1 International Unit (IU) = 1 USP Unit. *** Minimum daily requirement not established. **** Recommended daily allowance not established.

However, recognizing that MPF will be eaten with other foods which will provide some of the nutrients contained in MPF, usually it is not necessary to consume more than 1 ounce of MPF at a single meal to derive benefits if the basic diet is principally grain products, roots, fruits, beans or leafy vegetables.

Whereas the basic deficiency of a particular diet may be protein it may not be the only deficiency. That is the reason for the MPF approach rather than simply the protein approach. If addition of protein to a diet should relieve the protein deficiency but leave the diet deficient in some other factor or factors—for example, calcium, thiamine or Vitamin A—the dietary improvement would be only partially effective. By having present all essential nutrients other than carbohydrate and fat, MPF acts as a more effective supplement than if protein alone were provided.

Compared to other food products of equivalent nutrient content, MPF is extremely low priced. Under mass production conditions and in bulk packaging the cost can be brought down even lower. So far as we know, MPF is the least costly source of those essential nutrients which are most likely to be lacking in the diets of people in countries where malnourishment is a problem.

MPF, being completely precooked and ready to use, can be added to rice, bulgar, dhal, beans, porridge, soup, yams, tortilla flour, chappati flour and a wide variety of other foods or food products to yield mixtures that are readily acceptable, even by those with well-established food habits.

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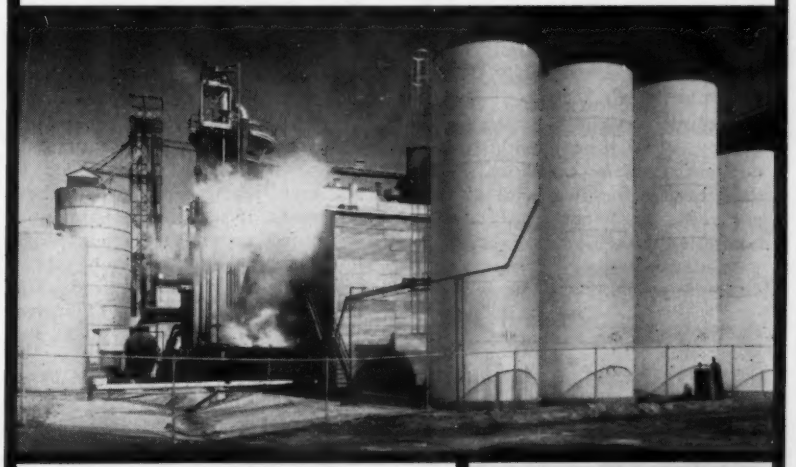

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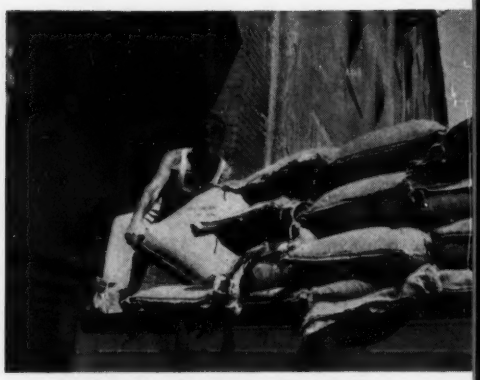
Past experience, problems and perspectives

Supplementation of Bread Proteins with Soy Flour



LOADING bags of soy flour from United States into truck at Genoa, Italy.

Based on Dr. Pomeranz' work in Israel using soy flour as a substitute for milk solids or animal proteins

By Y. POMERANZ[1]

THE PROTEINS of wheat contain improper proportions of the essential amino acids for complete utilization of these proteins in the synthesis and functioning of body tissues. A number of proteinaceous materials therefore have been suggested for enrichment of the protein content of bread and improvement in the biological value of its proteins. Oil-free soybean flour is one of these supplements (1, 2, 3, 4, 5, 6). The beneficial effects are due to the abundance of certain amino acids that are characteristically low in wheat proteins.

Recently (6) the beneficial effect of soy flour supplementation was demonstrated in both white and dark breads fortified with 6%, 9% and 12% soy flour. This supplementation was far more important in diets in which wheat products were the predominant source of protein. It was of limited value when the protein supply was derived from mixed and qualitatively adequate proteins. Thus, supplementation with soy flour should prove far more important in underdeveloped lands than to the people in western countries. Whereas in some countries cereals and cereal products supply up to 70% or more of the available per capita daily dietary calories, in the United States cereals provide only 10%-15% of the daily calorie intake.

Y. Pomeranz

The manufacture of soy flour to supplement bread proteins has been the subject of extensive studies leading to improvement in processing and uniformity of quality (7, 8). It is most unfortunate, however, that while processing of soybeans is well advanced in western countries where there is comparatively little urgent need for such supplementation, there is not enough "know-how" regarding the technological and biochemical aspects of soybean processing in countries where people would benefit most from enrichment with soy flour.

The Problem of Heat Treatment

Raw soy flour contains antimetabolites which can be destroyed or rendered inactive by proper heat treatment. If such heat treatment is continued beyond a certain stage, however, the nutritive value of the soybean proteins is impaired. This problem has been studied extensively, and adequate heat treatment procedures have been developed for soybean meals used by the feed industry. Although there are a number of chemical and biological methods to evaluate heat treatment of soy meal to be used in feedstuffs (9, 10, 11), it is not certain whether the criteria used for its evaluation in feedstuffs are equally well suited to testing soy flour for use in bread baking. The necessity and extent of heat treatment of soy flour added to bread must be considered from two viewpoints: (a) improvement of nutritive value of the soy flour and (b) suitability for bread manufacture.

Few investigations have been conducted on heat treatment of soy flour to be used in bread baking. Experiments in which bread baked with either unprocessed or heat-treated soy flour was fed to chickens gave inconclusive results. The relative effects on growth rates depended on levels of bread in the diet, and on whether whole bread or crust-free crumb was fed.

With regard to bread baking potentialities, the consensus seems to be that proper head treatment of soy flour, prior to its addition to wheat flour, may be beneficial. Pollock and Geddes (12) found that raw soy flour caused reproducible adverse effects on loaf volume, whereas appropriate heat treatment improved the volume of the loaf when baked with a satisfactory level of oxidizing agent. It has been shown (13) that the deleterious effect of soy flour on loaf volume and baking quality of bread made with no milk, sugar, or shortening may be alleviated to some extent by using toasted soy flour which has been heat processed to give optimal biological quality. The adequacy of heat treatment (13) was determined by feeding chickens raw or heat-treated soy meal.

Unfortunately, there are no simple and rapid methods to use as a control during the processing of soy flour for use in bread manufacture. While the heat treatment which soy flour undergoes during the baking process may not be so effective as that employed in proper toasting, it seems worthwhile investigating to what extent these two treatments are complementary. No doubt the effect of heat during baking will depend on the size of the loaf, the ratio of crumb to crust, baking temperatures employed, and extent of baking. These factors will vary in dif-

[1] Department of flour and feed milling industries, Kansas Agricultural Experiment Station, Manhattan, Kans.

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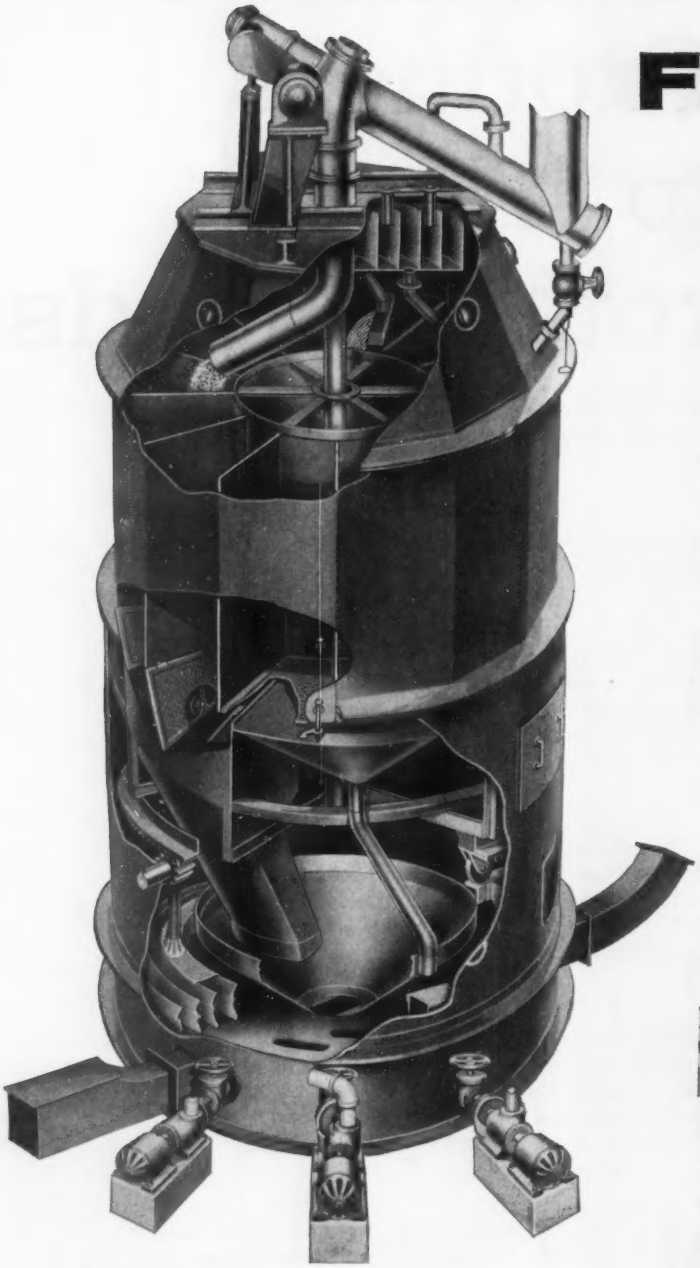

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ferent countries so the results would not apply equally in various places.

Other Problems

Excellent bread has been made from blends containing up to 8% soy flour, provided a rich formula and a high protein flour were used (14). Unfortunately, in those countries where enrichment with soy flour would be most beneficial, lean formulas are generally used. High protein flours are relatively expensive and generally unavailable in needy countries.

The enrichment of bread with soy flour necessitates using larger amounts of oxidizing agents. Loaf volume and baking quality of lean formula bread can be maintained (13) in bread baked from different types of wheat and soy flour mixes, provided proper levels of potassium bromate and lecithin are added. Since adding bromate to bread to improve overall bread quality is not permitted in some countries, the use of alternative oxidizing agents should be investigated.

The effect of soy flour on the keeping quality of bread is controversial. It may be that some of the conflicting results are not only due to the addition of soy flour to wheat flours containing various levels of protein, but also to the effect of variations in dough composition. It is likely that in lean bread formulas the use of high fat or lecithinated soy flour may have a beneficial effect on the retention of freshness. In this case, adequate steps should be taken to prevent fat spoilage during storage.

Perspectives

It has been proposed recently that soy flour protein isolates should be used as a flour supplement. They contain twice as much protein as ordinary oil-free soy meal, and are free of taste, color and odor. Such protein isolates have found a market in the United States and may be valuable supplements in breakfast cereals, biscuits, baby foods, or milk substitutes. While less expensive than animal proteins, the soy protein isolates are about three times as expensive as soy flour on a comparative protein basis.

Recommendations regarding the utilization of soy flour or its derivatives in bread enrichment must be made on the basis of considerations that are locally and technologically feasible and economically justifiable.

Another point to be stressed is that any project involving use of soy flour must include studies regarding the acceptability, keeping quality and nutritive value of enriched bread. While the potentialities of soy flour as a low cost protein in the field of human nutrition are well established, prejudice exists in some countries against the use of soy flour in baked goods. Only when the enriched flour is prepared to give a nutritious, palatable and appetizing loaf, within the means of all segments of the population, has the objective of enrichment been achieved. Introducing soy flour enriched bread will not achieve its aim if it impairs traditional criteria of bread quality.

SOY FLOUR usage must conform to local customs.

The program of enrichment with soy flour may necessitate changes in bread making procedures, or the addition of certain ingredients to offset the possible undesirable effects of soy flour. Rich-formula baking schemes have little chance of success in countries where lean formulas are traditionally used. Simpler and less expensive means should be sought. There is ample evidence that such are possible. As an example, the use of lecithin concomitant with bromate has been shown to be beneficial, and high fat soy flour may be advantageous in some cases. In lean formula doughs, the use of grits gave better results than the addition of finely pulverized flour (15). These are examples of the beneficial effects of simple changes in formulation.

While the manufacture of protein concentrates is probably too expensive to be of practical importance for use on a large scale, other means may be found to achieve similar results. Air classification permits the manufacture of high protein wheat flours. This physical method of separation is cheaper than the chemical one employed in the manufacture of protein isolates, and it may be applicable to soy flour.

Thus, there may be several ways to supplement bread proteins with soy flour and improve the nutritive value of bread in countries where bread is the main article of the diet, particularly of the lower income groups. The successful introduction of a soy flour enrichment program will depend on a thorough investigation on a local level of the many problems involved and on explanation by and cooperation of bakers, biochemists, economists, nutritionists, technologists, and consumers.

References

1—Harris, R. S., Clark, M., and Lockhard, E. E. Nutritive value of bread containing soy flour and milk solids. Arch. Biochem. 4, 213 (1944).

2—Howard, H. W., Monson, W. J., Bauer, C. D., and Block, R. J. The nutritive value of bread flour proteins as affected by practical supplementation with lactalbumin, nonfat dry milk solids, soybean proteins, wheat gluten and lysine. J. Nutrition, 64, 151 (1958).

3—Jones, D. B., and Divine, J. P. The protein nutritional value of soybean, peanut, and their values as supplements to wheat flour. J. Nutrition 28, 41 (1944).

4—Sure, B. Nutritional improvement of cereal grains with small amounts of foods of high protein content. Arkansas Agric. Experiment Station Bulletin (1950).

5—Westerman, B. D., Oliver, B., and May, E. Improving the nutritive value of flour. 6. A comparison of the use of soy flour and wheat germ. J. Nutrition. 54, 225 (1954).

6—Guggenheim, K., and Friedmann, N. Effect of extraction rate of flour and of supplementation with soy meal on the nutritive value of bread proteins. Food Technology, 14, 298 (1960).

7—Ofelt, C. W., Smith, A. K., and Derges, R. E. Baking behavior and oxidation requirements of soy flour. I. Commercial full-fat soy flours. Cereal Chem. 31, 15 (1954).

8—Ofelt, C. W., Smith, A. K., and Mills, J. M. Baking behavior and oxidation requirements of soy flour. II. Commercial defatted soy flours. Cereal Chem. 31, 23 (1954).

9—Pomeranz, Y., and Linder, C. A simple method for evaluation of heat treatment of soybean meal. J. Am. Oil Chem. Soc. 37, 124 (1960).

10—Pomeranz, Y. Thiamine destruction as an index of soy meal heat treatment. Bulletin Research Council Israel, 70, 37 (1959).

11—Carpenter, K. J. Chemical methods of evaluating protein quality. Proceedings Nutrition Society, Cambridge, 17, 91 (1958).

12—Pollock, J. M., and Geddes, W. F. Soy flour as a white bread ingredient, II. Fractionation of raw soy flour and effects of the fractions in bread. Cereal Chem. 37, 30 (1960).

13—Adler, L., and Pomeranz, Y. Use of lecithin in production of bread containing defatted soy flour as a protein supplement. J. Sci. Food Agr. 8, 449 (1959).

14—Finney, K. F. Loaf volume potentialities, buffering capacity and other baking properties of soy flour in blends with spring wheat flour. Cereal Chem. 23, 96 (1946).

15—Adler, L., and Pomeranz, Y. Unpublished data.

LABORATORY of Hoskins Co. at Food Technology Laboratories, Chicago.

Soy in Spaghetti

By CHARLES M. HOSKINS
Hoskins Co., Libertyville, Ill.

IN THE TWENTIES and thirties soy flour was tested as an ingredient in macaroni products and was found so promising from a nutritional standpoint that soy flour was one of the few optional ingredients permitted in macaroni products under the Standards of Identity of the Food and Drug Administration. These early attempts at soy macaroni products resulted in a product which was rather bitter, of poor texture and dark in color. This experience resulted in a rather unfavorable attitude toward soy products in the industry.

Recent developments have resulted in soy flours and soy flour proteins that do not cause substantial decrease in the quality of macaroni from the standpoint of color, texture or taste. Because of this, the macaroni industry has shown renewed interest in soy products and many companies have run factory production tests within the last 2 years.

Charles M. Hoskins

In the early part of 1960 we ran a series of comparative tests in collaboration with Food Technology Inc. and Wisconsin Alumni Research Foundation to compare the nutritional and cooking qualities of several protein additives to spaghetti. Table 1 shows some of the data obtained from these tests.

Table 1 shows that the protein value of spaghetti can be increased 3.4 times by the addition of soy flour which has almost the same cost as the basic semolina used for making spaghetti. Because of the increase in protein efficiency and quantity, the cost per pound of balanced protein in the soy spaghetti was $0.47 compared with $1.53 in standard spaghetti.

Table 2 shows the cost per pound of balanced protein and the calories per gram of balanced protein compared with a number of other protein sources.

It will be seen that the cost of balanced protein in the soy spaghetti is lower than the cost of any of the traditional protein sources listed. The soy spaghetti has about the same number of calories per gram of protein as lean cuts of pork and only slightly more than whole milk. This makes the soy spaghetti an economical source of protein with a very low fat content and a reasonably low amount of calories per pound of protein.

The cooking tests showed that the quality of soy products varied considerably from product to product as did the milk products. The best of the soy flour products tested in this series was nearly as good as the semolina product in eating quality and held up to overcooking better than the semolina.

Soy spaghetti could fit into the macaroni picture where high nutrition and resistance to overcooking are desired. These characteristics are needed in institutional feeding, cafeteria-type restaurants and canned spaghetti for children and old people.

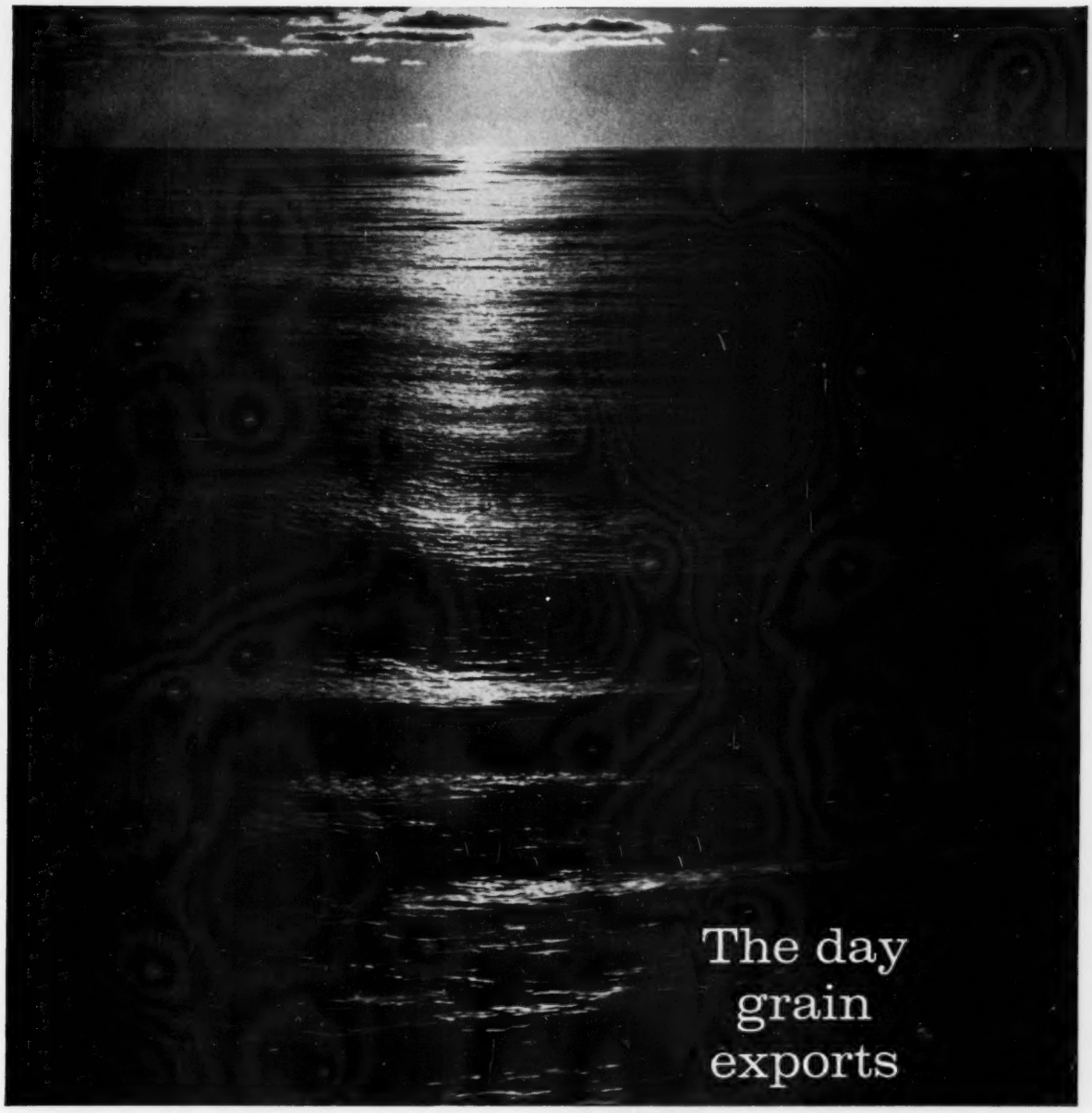
TABLE I. COMPARISON OF PROTEIN ADDITIVES IN SPAGHETTI

Product	Total % protein	% protein efficiency*	% balanced protein**	Added cost per lb. spaghetti	Material cost per lb. of balanced protein	Calories per gram of bal. protein
Soy flour	20.9	64.0	13.4	$0.0014	$0.47	25
(Soy protein concentrate)	21.4	62.8	13.4	0.0306	0.69	25
Milk protein	21.7	81.6	17.8	0.0352	0.55	19
Wheat germ	15.3	42.4	6.5	0.0030	1.00	52
Lysine	14.8	64.8	9.6	0.0179	0.83	35
(Semolina control)	14.6	27.6	4.0	0.0000	1.53	84

* Based on rat feeding tests for 4 weeks ad libitum with 10% protein in diet. Casein = 100%.
** Total % protein x % protein efficiency.

TABLE II. COMPARISON OF PROTEIN NUTRITIONAL VALUE, CALORIES AND COST OF SEVERAL SOURCES OF PROTEIN
(Based on USDA Handbook No. 8, June 1950)

Food	% balanced protein	Calories per 100 gm.	Calories per gm. of protein	Retail price/lb.	Cost/lb. of balanced protein
Tuna (canned)	29.0	198	6.83	$0.80	$2.76
Ground round steak	27.0	233	8.63	0.89	3.30
Egg	12.8	162	12.6	0.53	4.13
Ham luncheon meat	22.8	302	13.2	1.85	8.10
Beef rib roast	24.0	319	13.3	1.09	4.53
Processed cheese	23.2	370	16.0	0.53	2.28
Hamburger	22.0	364	16.5	0.55	2.50
Frankfurters	14.0	248	17.7	0.55	3.93
Whole milk	3.5	68	19.4	0.12	3.43
Lean cuts pork (raw)	14.5	357	24.6	0.55	3.78
Spaghetti with 17% soy flour	5.4	136	25.0	0.28	2.06
Plain spaghetti	1.6	136	84.5	0.28	6.93



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Soybean Market Development Activities in Japan

PURDUE Agricultural Economists L. S. Hardin (left) and L. F. Hesser (right), authors of this article, work in their Tokyo office as they study market development in Japan.

By L. S. HARDIN and L. F. HESSER

Agricultural Economists,
Purdue University, Lafayette, Ind.

JAPANESE SOMETIMES call soybeans "the meat and milk of the field." Soybeans have long been an important source of protein in Japanese diets. New recipes and new processing methods, to a large extent introduced through efforts of the U. S. market development program, are putting increased emphasis on the use of soybeans in upgrading diets.

Program Started in 1956

Market development for soybeans in Japan is a joint effort. You who are in the U. S. soybean industry are directly involved, for the American Soybean Association is the U. S. cooperator. USDA under Public Law 480 is the contracting agency. And the Japanese soybean food and feed people are cooperators in Japan.

Key action agency is the Japanese American Soybean Institute of Tokyo whose research, educational and promotional activities are well known to this publication's readers.

The market development program for soybeans was initiated in Japan in 1956. Since then both food and nonfood uses of soybeans have increased. Total consumption has risen more rapidly than population has increased; 1959 per capita consumption was 117% of 1955. Since domestic production has remained fairly stable, increased consumption has come from imports (table 1).

The market for U. S. soybeans in Japan has expanded sharply since 1956 (table 2). The percentage of soybean imports coming from the United States has increased from 72% in 1956 to 94% in 1959 (table 3).

Favorable Forces

Many forces in addition to market development have been at work to increase soybean consumption in Japan since 1955.

Population and incomes have increased. Japanese consumption of soybean products, especially soybean oil, increases as incomes rise, though changes in consumption are not quite proportional to changes in income.

Prices of soybean products at retail have been fairly stable. Prices of soybean oil have actually declined, thus favoring increased consumption.

Use of soybean meal in animal rations is at a low level, but is increasing. Meal is generally considered too expensive for animals. (Meal averaged $103 per metric ton in 1959.) However, rising poultry and livestock numbers have resulted in some increase in feed use of meal; potentially this is a large outlet.

Crushing operations, especially of imported soybeans, have been profitable. The difference between CIF price of imported beans and the domestic price has been so wide that direct resale, even without crushing, has been highly profitable for firms permitted to import soybeans. The profit motive thus encouraged importers to bring in the maximum quantities allowable.

Changing dietary habits have brought increased consumption of

* This is abstracted from a more complete evaluation of market development activities in Japan, a joint Purdue University-FAS study to be published in June as Purdue Experiment Station Bulletin 719. This was based on studies made in Japan in the summer of 1960 and reflects conditions which existed then.

TABLE 1. DOMESTIC PRODUCTION AND IMPORTS OF SOYBEANS AND SOYBEAN MEAL, JAPAN, 1934-36 AVERAGE AND 1953-59
(1,000 metric tons)

Fiscal year	Domestic production soybeans	Imports	
		Soybeans	Soybean meal
1934-36	303	700	—
1953	429	541	42.5
1954	376	576	6.8
1955	507	767	11.4
1956	456	667	7.1
1957	458	846	1.5
1958	391	956	25.7
1959	426	1,073	.5

Source: Food Agency statistics, Ministry of Agriculture and Forestry.

TABLE 2. SOYBEAN IMPORTS BY COUNTRY OF ORIGIN, JAPAN, 1953-1959
(1,000 metric tons)

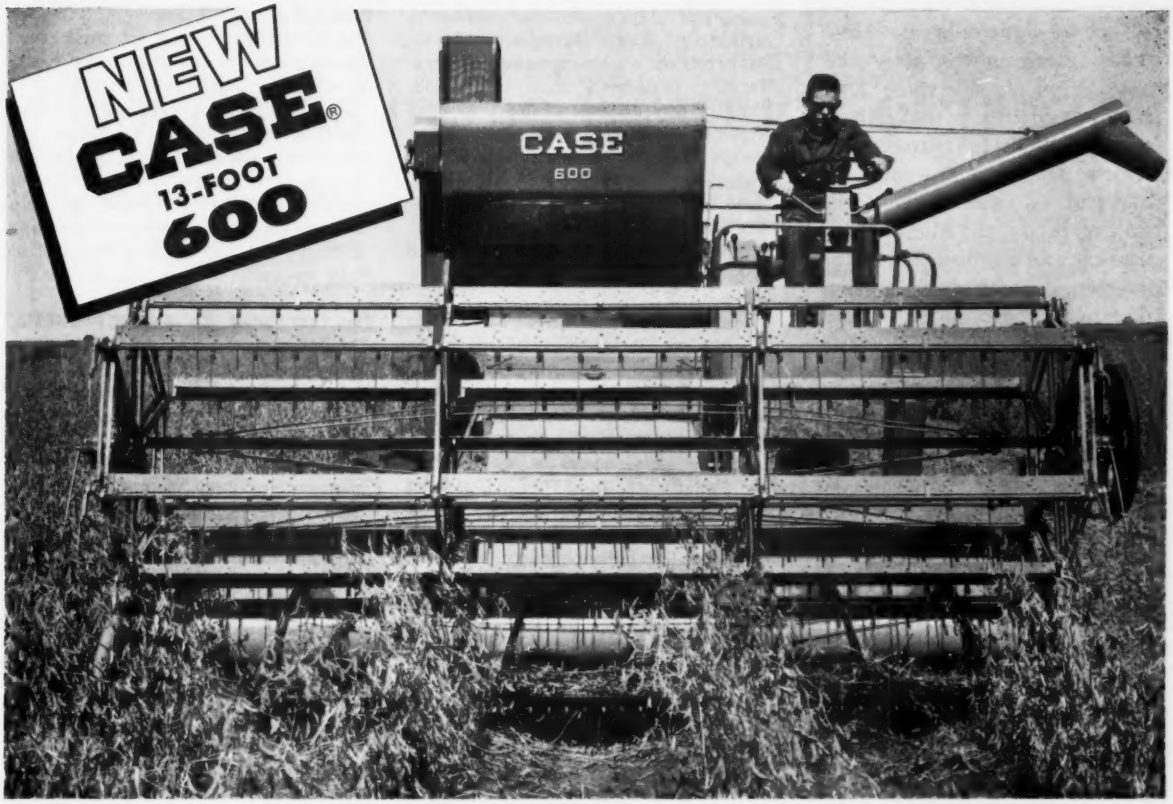
Fiscal year	Total imports	U.S.A.	Mainland China	Brazil	Other countries
1953	541	494	22	24	1
1954	576	442	113	19	1
1955	767	572	167	27	1
1956	667	480	179	5	3
1957	846	640	205	0	1
1958	951	866	39	35	1
1959	1,100	1,000	0	33	30

Source: Finance Ministry's monthly Trade Report.

TABLE 3. SOYBEAN CONSUMPTION AND IMPORTS, JAPAN, 1953-59

Fiscal year	Consumption of soybeans in Japan				Percent of imports from United States
	As whole soybeans 1,000 m/t	Crushed for extraction 1,000 m/t	Total 1,000 m/t	Total per capita pounds	
1953	568	380	948	23.8	91
1954	509	417	926	23.2	75
1955	735	505	1,240	30.6	75
1956	625	547	1,172	28.6	72
1957	582	691	1,273	30.8	76
1958	571	769	1,340	32.1	91
1959	735	775	1,510	35.8	94

Source: Finance Ministry's monthly Trade Report.



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•Several developments have taken place which alter the outlook in Japan since Drs. Hardin and Hesser made their study there last summer. Among them are the impending end of automatic allocation in Japan, the higher U. S. market and support prices for soybeans, and the resumption of trading between China and Japan.—EDITOR.

soybean oil. With improvement of quality, soybean oil is being accepted as a standard oil for use in frying and for salad dressing. Objectionable bean flavor and aroma have been eliminated from soybean oil during the last 5 to 10 years. The product is now accepted for frying along with its chief competitor, rapeseed oil.

Exports of soybean oil have increased. Japanese crushers seek export contracts because they entitle crushers to additional fund allocations with which to import beans. Even though such export oil sells at a low price, the meal produced from such crushing has been absorbed by the food and feed industry in Japan. The net result of the export operation is to increase total crushing, thus to increase imports.

U. S. Producers in Favorable Position

Under the conditions outlined above, U. S. soybeans have been in a somewhat favored situation.

JAPANESE housewives learn more about cooking with soybean oil as they witness demonstrations staged from a "kitchen bus" in rural Japan as a part of market development activities.

Prewar, Japan imported soybeans primarily from Mainland China. Manchurian soybeans have not been legally imported since late 1958. Small quantities were imported from China during 1952 to 1954; annual imports from that source reached the 200,000-ton level in 1955, 1956, and 1957 (table 2). Discontinuance of soybean trade with Mainland China made the United States, the other major world exporter of soybeans, the logical supplier.

Japan's dollar balances have been increasing. Trade and diplomatic relationships are generally favorable. Even so, a 10% import duty has been collected since Oct. 1, 1956, on soybean imports from dollar areas.

The quality of U. S. beans exported to Japan has improved. Crushers prefer U. S. to domestic or Chinese beans. Oil content of U. S. beans is at least 1% higher. Food manufacturers historically have preferred domestic and Chinese beans because of (a) less foreign material and cracked beans, (b) belief that protein content is higher, and (c) familiarity. Now U. S. soybeans are accepted though not necessarily preferred for food uses. Soft tofu manufacturers actually prefer them.

Japanese soybean buyers appreciate that firm U. S. prices are constantly known to them and that steady supplies are available. They point with satisfaction to their access to the U. S. futures market for soybeans in contrast to state pricing and uncertain contracting with such nations as Communist China.

Prices of U. S. soybeans have declined in recent years making them a more attractive commodity to importers. The decline in the CIF price has been more than enough to offset the 10% import duty. The index of the CIF price of soybeans in May 1960 was 77% of the 1953 average and 20% below 1956 levels.

Program is Effective

While several forces favor increased soybean consumption and imports, the soybean market development program has been effective. It is positive in its influence and imaginative in its planning. Activities have centered on: (1) quality and grade improvement; (2) providing market intelligence and understanding to the U. S. soybean industry; (3) research and education of Japanese processors with special emphasis on the attributes and qualities of U. S. beans; and (4) nutritional and cooking education of consumers.

In the final analysis, the quantity of imported soybeans used in Japan is determined by the Japanese government through currency allocation. Japanese policies maintain domestic soybean prices, and therefore the domestic prices of soybean products, above world levels.

Policywise, the market development program seeks to make the consumer acutely aware of the absolute and comparative merits of soybean foods. Reliance is then placed on the consumer to exert pressure for such policy changes as may evolve.

Government Policy Important

Within rather broad limits, the quantities of soybeans and soybean products consumed in Japan will be determined by Japanese governmental policy.

Soybeans are tentatively scheduled to be "liberalized" July 1, 1961. The soybean industry itself is not unanimous in its attitude toward liberalization. Small firms in particular fear that their earning position will deteriorate if allocations of imports cease to be handled by government. And domestic soybean producers are also fearful that liberalization will result in their receiving lower prices.

Governmental policy is also involved in determining absolute and relative levels of import duties on soybeans, competing oilseeds, oil and meals, domestic soybean and rapeseed price support levels. With liberalization, an increase in the import duty is planned. If duties on competing products are not adjusted at the same time, soybean importation could become less attractive.

If soybean imports are liberalized and import duties are not increased to more than 13% or 14%, Japanese purchases are likely to increase at a more rapid rate than during the past 4 years—if world prices stay near 1960 levels. (The much higher spring 1961 soybean prices are obviously causing buyers to look about for lower-priced substitutes.)

Major consumption increases are not expected, however, unless domestic prices are allowed more nearly to approach world market levels. It is within the power of the Japanese government, therefore, to permit significant increases in soybean consumption. The demand or consumption potential exists, even at present levels of consumer income.

If liberalization and price adjustments were permitted, increased imports would likely come from the United States or from Mainland China (the USSR may provide some meal). Significant increases in domestic soybean production are unlikely, even if needed improvements in production technology were made.

Soybeans in the Nutrition of Japan

By SHIZUKA HAYASHI

Managing Director, Japanese American Soybean Institute, Nikkatsu International Bldg., No. 1-Chome Yurakucho Chiyoda-Ku, Tokyo, Japan

JAPAN, WITH a population of 95 million people on a land area smaller than that of the state of California, is confronted with the problem of how best to feed its population. With population increasing at a rate of 1 million annually, the problem perhaps will become permanent.

Let us glance at the various food sources available in Japan and the supply of proteins and fats these foods offer. The following table shows the general situation based on 1959 governmental statistics:

USAGE OF SOYBEANS IN VARIOUS FOOD PRODUCTS, JAPAN (metric tons)*

	Production	Whole soybeans	Soybean meal	In terms of soybeans
Shoyu (soysauce)				
1959	1,216,040	23,858	149,248	217,686
1960-61	1,354,006	30,000	235,474	335,810
Miso				
1959	505,354	141,114	32,819	173,933
1960-61	558,786	176,877	31,214	208,091
Tofu				
1959	—	—	—	318,150
1960-61	—	—	—	334,000
Frozen tofu				
1959	—	—	—	40,000
1960-61	—	—	—	40,000
Natto				
1959	—	—	—	35,000
1960-61	—	—	—	35,000
Kinako				
1959	—	—	—	13,000
1960-61	—	—	—	13,000
Oil crushing				
1959	—	—	—	840,583
1960-61	—	—	—	850,000

* 1960-61 estimated.

	Production 1,000 tons	Protein per day grams	Fat per day grams	
Cereals:				
Rice	12,500	19.7	2.4	
Wheat, Barley, Oats	3,700	11.2	1.9	
Others	1,350			
Meat	544	2.9	0.8	
Eggs and milk	2,210	3.0	2.9	
Fish	5,544	12.0	3.0	
Vegetables	8,360	3.3	0	
Others	—	5.0	1.8	
Soybeans and soybean products (including miso, tofu and shoyu)	—	10.6	3.4	7.6
Soybean oil	153	—	4.2	
Other fats and oils	204	—	6.3	
Total	—	67.7	26.7	
Average 1934-38	—	54.9	13.2	

The above analysis indicates that Japan gets her protein chiefly from cereals, fish and soybean products. The protein available from soybeans and soybean products is from the total annual domestic production of 420,000 metric tons (15 million bushels) and approximately 1 million metric tons (37 million bushels) of imported U. S. soybeans.

Of the total 26.7 grams of fats and oils available daily, 7.6 grams originate from soybeans. In other words, 28% of the daily intake of oils and fats of the Japanese people is supplied from soybeans.

How important soybeans are in the diet of the Japanese people from the standpoint of proteins and fats can be judged from the above analysis. No other foods can supply both protein and fats economically in such abundance.

Japan is not well supplied with protein food sources. For this reason, she has to depend on starchy foods like rice and wheat for the supply of protein as shown in the above list. Overloading the stomach is a natural consequence.

Meat is not only scarce but the price is too high to meet the daily needs of average people. Annual per capita meat consumption in the United States is 237 pounds while in Japan it is only 2.3 pounds. An annual total supply of 5½ million tons of fish is near the limit and the amount cannot be increased easily.

These are the problems Japan has to solve.

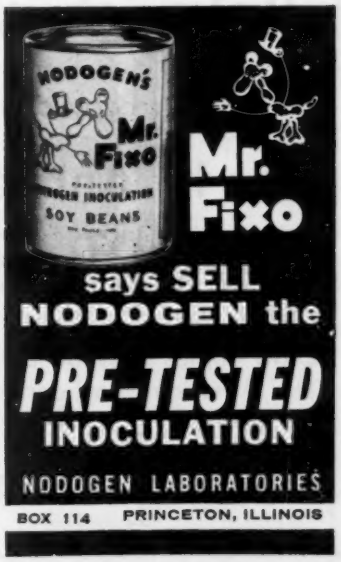
To maintain the nutritional standard of the Japanese people even at the present level of protein and fat intake is not an easy task. Government officials and nutritionists are continually emphasizing the necessity of increasing the intake of proteins and fats, especially fats, to considerably above the present level. The Japanese intake of fats and oils is less than 10 pounds per capita in comparison with about 50 pounds in the western countries.

In summary, 1.5 million tons (55 million bushels) of soybeans that cost less than 70 billion yen ($190 million) provides 10.6 grams of protein daily per capita out of 67.7 grams needed and 7.6 grams of oil out of the needed 26.7 grams. Compared with this, 17.55 million tons of cereals costing 955 billion yen ($2.6 billion), 2.75 million tons of meat, eggs and milk costing 194 billion yen ($540 million), 5.54 million tons of fish costing 280 billion yen ($780 million), we see how important is the role of low cost soybeans and their products in the nutrition of the Japanese people.

The Japanese live too much on carbohydrate foods. Rice eating must be minimized and more protein foods eaten. The obvious conclusion is the increased consumption of soybeans.

MR. HAYASHI samples "moromi" (which is pressed to get soy sauce) made from U. S. and Japanese soybeans.

V. D. Anderson Co. has named Donald J. Schmid manager of the parts order department. Mr. Schmid, who has been with Anderson 14 years, succeeds Al E. Lange, who has retired after 26 years' service with the company.



Soybeans and the Nutrition of India

From India Office, Soybean Council of America, Inc.

ACCORDING to Dr. P. V. Suhhatme, director, division of statistics, Food and Agriculture Organization of the United Nations, about two-thirds of India's population is malnourished. According to the 1959 U. N. Statistical Year Book, India was the worst fed nation of the 40 that supplied statistics.

The average Indian consumed 1,880 calories in 1954-56 (the latest figures available) compared with the prewar figure of 1,950 calories in 1934-38. The general apathy, lack of vigor, morbidity, and the higher incidence of mortality of the Indian can be largely attributed to the widespread nutritional deficiency existing in their diet.

The diet of the poorer class adults in northern India largely revolves around wheat, while that of the southern Indian is based predominantly on rice. The table below illustrates a few typical diets of the years before 1950.

It can be seen that the Gujerati diet in Bombay is a better balanced one even though the calorie intake is less than in the lower class north Indian diet.

At higher income levels the diet is better. The middle class of India consumes a larger proportion of fats, milk, flesh foods, and sugar. These items are too costly to be included in the poor man's diet.

Diet surveys carried out in India in the last 20 years confirm that the Indian diet is inadequate from the nutritional standpoint.

TABLE 1. SOME PRE-1950 INDIAN DIETS
(ounces)

Food item	South Indian adult poor-class diet	North Indian adult poor-class diet	Gujerati lower middle-class diet
Rice	16.0	2.5	3.7
Wheat	.....	14.9	5.1
Millets	.....	.....	1.5
Pulses	1.0	1.4	2.2
Vegetables	2.5	6.7	5.6
Milk and milk products including ghee	1.5	3.4	10.8
Fats and oils	0.5	.....	1.0
Sugar and jaggery	.....	0.9	1.6
Condiments	0.5	0.2	0.5
Meat, fish and eggs	.....	0.5	.....
Total	22.00	30.5	32.0
Less 5% for wastage	1.0	1.5	1.5
Net	21.0	29.0	30.5
Calories	1,820	2,180	1,960

NET FOOD CONSUMPTION IN INDIA 1954-55
Daily ounces per capita, from FAO Yearbook

Cereals	Potatoes and other starchy roots		Sugar	Pulses and nuts
12.9	1.2		1.4	2.7
Meat	**Eggs**	**Fish**	**Fats and oils**	**Milk**
0.1	.....	0.1	0.4	4.2

TABLE 2. TYPICAL MIDDLE-CLASS DIETS
(ounces per consumption unit)*

Foodstuffs	Punjab Hindus	Punjab Muslims	Bengal	Bombay	Madras
Rice	1.5	4.1	10.2	8.2	13.3
Wheat	10.9	11.6	3.1	3.2	....
Millets	....	0.7	....	0.2	....
Other cereals	4.5	....	....	....	0.8
Pulses	1.8	1.2	1.5	1.1	1.3
Leafy vegetables	4.0	3.0	0.7	1.8	0.6
Nonleafy vegetables	4.5	3.0	11.6	3.2	3.9
Fruits	0.7	....	3.3	....	....
Oil and ghee	1.3	1.4	2.2	2.9	1.3
Milk	10.7	7.0	11.0	7.6	10.5
Meat, fish and eggs	0.1	2.2	5.6	4.1	0.6
Sugar and jaggery	2.2	1.1	....	1.9	1.8

*See Appendix 1 for explanation of consumption unit.

On the other hand a different and better picture is presented by the table given below, which compares data regarding the average production of different types of food per adult consumption unit with the requirements for a balanced diet suggested by the nutrition advisory committee of the Indian Council of Medical Research, New Delhi.

TABLE 3. BALANCED DIET COMPARED WITH AVERAGE PRODUCTION OF DIFFERENT TYPES OF FOOD IN INDIA (ounces daily)

Foodstuffs	Balanced diet[1] (per adult consumption unit)[3]	Estimated[2] availability per adult consumption unit (1955-56)
Cereals	14	14.7
Pulses	3	2.6
Leafy vegetables	4	2.6
Other vegetables	6	....
Ghee and vegetable oils	2	0.39
Milk and milk products	10	4.5
Meat, fish and eggs	4	0.4
Fruits	3	1.0
Sugar and jaggery	2	1.6
Total calories	3,089	2,238

[1] Balanced diet suggested by the Nutrition Advisory Committee of the Indian Council of Medical Research, New Delhi. [2] Indian Agriculture in brief issued by Economic and Statistical Adviser, Ministry of Food and Agriculture, Government of India (1958). [3] See Appendix I for explanation of consumption unit.

The tables bring out two important characteristics of the average Indian diet:

1—The preponderance of cereals.

2—The marked deficiency of protective foods such as milk, eggs, meat, fish, fruits, and leafy vegetables.

Although the Indian diet is called vegetarian, there are hardly any vegetables in it. It consists of 70% to 80% cereals. But cereals are the foods that are seriously lacking in the growth and tissue-promoting

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qualities of protein and in regulating substances such as vitamins and mineral salts.

Diet surveys reveal that the average daily intake of protein is 73 grams per consumption unit. Of this amount, animal protein is below 9%, although for proper nutrition it should constitute 33% of the total protein. Proteins of high biological value are lacking in the average man's diet.

Milk Gap Vital

Milk, which is considered a nearly perfect food, is the most vital gap in the Indian diet. The amount of milk available is only 4 to 5 ounces daily per consumption unit. But the daily requirement for adults is 10 ounces, and for children, over 15 ounces.

To combat this dearth of milk, proposals have been discussed for preparing milk from peanuts and soybeans. The Central Food Technological Research Institute, Mysore, reports, "Feeding trials have shown that soy milk can be used as a substitute for cow's milk for infants over 6 months of age. Groundnut (peanut) and soybean curds have been found to possess a marked supplementary value in the diet of children."

The difficult problem in India is how to improve the nutritional intake of its people within their economic limitations. Protective foods such as milk, eggs, meat, and fish are expensive and generally out of reach of the average man's pocketbook. For this reason, attempts have been made to develop cheaper foods with higher nutritional value without effecting any radical change in food habits.

One of the foods developed is the Indian Multi-Purpose Food (MPF) consisting of 75% specially processed groundnut flour and 25% Bengal gram flour, fortified with essential minerals and vitamins. It was prepared by the CFTRI on lines of the American Multi-Purpose Food, which is based on soy flour. Indian MPF is a low-cost supplement to the poor man's diet, rich in proteins, vitamins, and minerals and costing 4-5 naye paise (1¢) per ounce. About 1 or 2 ounces of MPF daily is sufficient to make up the nutritional deficiency in the average diet. It can be added to common Indian dishes without changing their appearance, color, flavor, or taste. These newly developed cheap food supplements have not yet found wide acceptance in India.

The greatest handicap toward greater consumption of soybean products in India is their lack of availability. Soybean production in India is negligible.

Soybeans are mostly consumed by the populace cooked as a vegetable or in some fermented form. In restricted quantities, they are available in the larger markets. Diabetic patients are the chief buyers of soybeans for making "chapati" or unleavened bread. In large cities the shops have soy sauce, and certain catering organizations are known to prepare soybean products such as porridge, soy flour, soy toffee and biscuits.

India's third 5-year plan just drawn up envisages an increase in vegetable oil consumption from 0.36 ounces to 0.47 ounces daily. This would mean an increased annual requirement of over 500,000 tons of vegetable oils for edible purposes alone, assuming that the Indian population will total 490 million by the end of the third plan. India's present oilseed production is short of the demand, and the gap is likely to grow as the years pass.

It is obvious that the increase in vegetable oil consumption foreseen

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in the third plan is too small to make much difference in nutritional levels when the daily per capita requirement for a balanced diet is 2 ounces. The Employers Association of Calcutta has suggested that India should aim at a daily per capita consumption of 1 ounce by 1969.

India has made its first purchase of U. S. soybean oil—3,000 metric tons of crude degummed soybean oil under P. L. 480 from North American Continental Co. in late March. The purchase was the culmination of several years' negotiations by the Soybean Council in cooperation with the U. S. Department of Agriculture. First shipment was made Apr. 12 and consigned to 22 vanaspati manufacturers in India.

The Soybean Council has been working with interested people in India for several years toward possible utilization of soybean oil in the Indian diet. It is the hope of the Council to be able to meet part of the annual fat deficit in India with soybean oil.

The vast potential for soybean consumption in India, where the two main constituents of the bean—oil and protein—are in such short supply, can be better imagined than described.

APPENDIX I

It is usual to assess the food requirements of women and children in terms of those of the average man. For this purpose, the following adult consumption unit or adult man-value coefficients are used:

	Years	Adult consumption unit coefficients
Adult male		1.0
Adult female		0.9
Adolescent boys and girls	13-21	1.0
Children	9-12	0.8
Children	7-8	0.7
Children	5-6	0.6
Children	3-4	0.5
Children	1-2	0.4

These coefficients are used for assessing the food requirements of a group of mixed age and sex compositions, e.g., a family or groups of families or the entire population of a country.

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EXPORTS—Exports of whole soybeans grew from nothing 12 years ago to 142 million bushels from the 1959 crop—and every bushel was exported for dollars. Exports of oil from the 1959 crop amounted to almost 100 million bushels (two-thirds of it for dollars), and meal from 28 million bushels, all for dollars. The total exports amounted to more than $400 million.

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Ask $385,000 Increase in Soybean Research Funds

AN INCREASE of $385,000 in funds for soybean research under Agricultural Research Service, U. S. Department of Agriculture, was recommended by Geo. M. Strayer, executive vice president of the American Soybean Association, in an appearance before the agricultural subcommittee of the appropriations committee of the House of Representatives May 4.

Mr. Strayer was accompanied by J. W. Calland, former managing director of the National Soybean Crop Improvement Council. David R. Farlow, assistant to the ASA executive vice president, gave similar testimony before the Senate appropriations committee May 10.

Annual appropriations for soybean research in recent years have totaled $253,000.

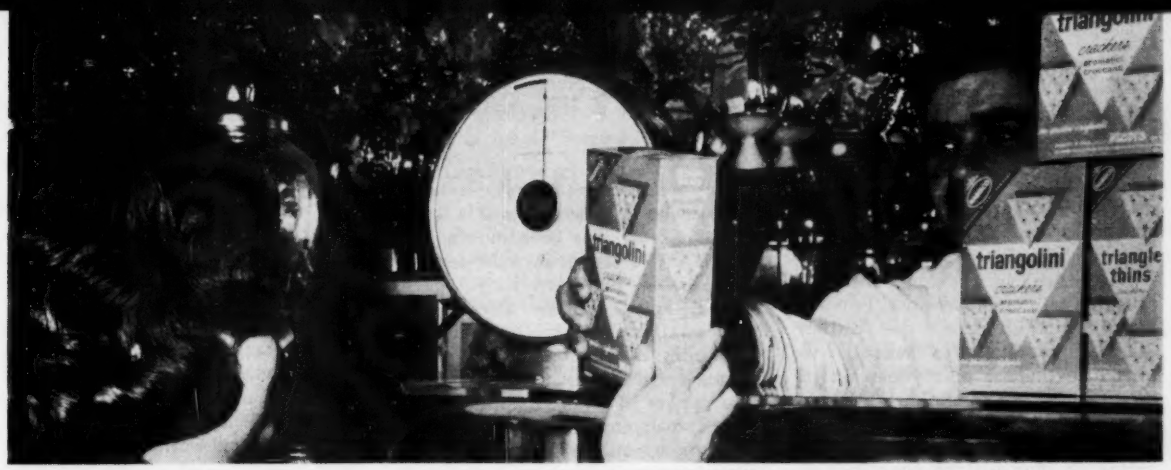
Mr. Strayer and Mr. Calland pointed out in their appearance before the subcommittee that since 1954 "there have been no increases in funds that could be used to increase staff or facilities for research.

"We all realize how much research and operating costs have increased in these 7 years . . . Acreage has also increased, problems have increased, and new and serious threats to the soybean have arisen, such as the phytophthora root rot and the soybean cyst nematode.

"Thus the need for research on the soybean has greatly increased while the personnel and means of doing it are actually shrinking."

Mr. Strayer and Mr. Calland asked for the following increase in funds:

Weed control, $300,000; soybean breeding, $110,000; physiology, $75,000; and nodulation, $100,000.



ITALIAN stores offer foods containing soy flour.

Soybean Council of America—Italy

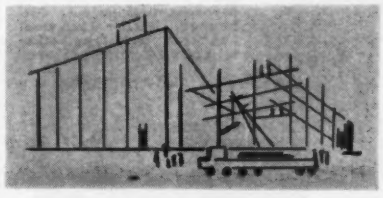
AIM IS BETTER, CHEAPER FOODS

ITALY IS a country with well-preserved dietary traditions, and, of course, with long-established dietary prejudices. Therefore hard was the task of the office that had just opened its quarters in Rome, in February 1958 with a staff of two, with the aim and intent of disseminating the knowledge on and promoting the use of soybeans and soybean products in all fields of nutrition and feeding. The results attained are contained in a few figures. While Italian imports of soybeans from the United States amounted to less than 1,000 metric tons in 1957, they reached the 100,000-metric-ton mark in 1960. These two figures encompass 3 years of hard, tireless work of promotion among all types of people, ranging from university professors to government officials, from large feed producers to the small farmer who owns but four or five chicks, a dozen rabbits, and a cow, to whom soybeans were either known only as a strange bean coming mostly from China, or not known at all.

The Soybean Council set to its task with this in mind: not to revolutionize the habits of the Italians, but as a first step to explain to them how soybean products could eventually enter their diets, or the feeds of their livestock. It is well known that Italians are great spaghetti eaters; therefore, the Soybean Council Italian office got in touch with the Italian Institute of Human Nutrition, at university level, and showed them the benefits of including soybean products in the making of pasta, so as to add a quantity of much-needed proteins in the national diet. The staff of this Institute enthusiastically accepted the idea, and experiments were successfully commenced to ascertain the biological effects caused by adding 10% soybean protein in the making of pasta. In addition, the office is also assisting two of the major pasta manufacturers in Italy to conduct similar experiments.

Soybean Oil Also

Soybean oil is another product that the office has been promoting constantly. Italy is traditionally a producer and a large consumer of olive oil. Her oil production however does not meet all needs and therefore substantial quantities of oil must be imported. Due to highly protective legislation, imports of seed oil are very strictly controlled. The office is working in close collaboration with the office of the U. S. agricultural attache in Rome to have import restrictions removed. It also gives technical assistance to Italian



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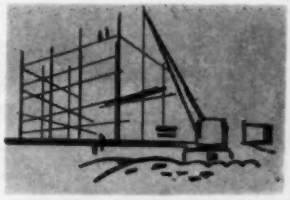

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importers of U. S. soybeans who during the past year have become so interested in soybean oil and in its possibilities that several soybean processing plants have been built and are now operating at full capacity.

The office, in order to increase consumption and therefore imports of soybean oil from the United States, is conducting a campaign to introduce the use of soybean oil in the manufacture of margarine. Also, the office is assisting these manufacturers in their promotional campaigns to increase the consumption of margarine by Italians. The results so far are that almost 60,000 metric tons of margarine were produced and marketed in Italy during 1960, as against 40,000 metric tons in 1957.

Results in Feeds

Results achieved in the use of soybean meal in mixed feeds have been most gratifying. The office bore down hard on the fact that U. S. meal was "toasted," and now this word has almost become a brand name for U. S. meal. "Toasted" makes the difference, and the Italian producer and livestock grower knows, thanks to the efforts of the office, that "toasted" meal is U. S. meal.

But none of the many products that can be obtained from this truly "miracle crop" has been overlooked by the office. Soybean milk for allergic babies has been widely publicized, and countless parents of babies suffering from allergy to regular milk have come to the office asking for the "miracle" milk. Now two major Italian manufacturers have arrangements under way to produce soy milk in Italy. The benefits of soy milk have been and will be discussed and emphasized by some of the most brilliant Italian pediatricians at national and international medical symposiums. The Italian equivalent of Metrecal, called Melbamin which contains soy flour, is currently being produced and sold in Italy with success unforeseen even by its producers. The usé of isolated soy protein in the manufacture of paper is also being promoted by the office, and experiments are under way at one of the largest paper manufacturing plants in Italy. In conducting its market development activities, the Council office avails itself of the cooperation of Italians, and works through Italian organizations with large networks of offices throughout Italy. The Italian cooperators of the office appear in the limelight, while the Soybean Council gives advice and provides technical information and lecturers. The Council is present at most Italian Fairs (16 in 1961), either in cooperation with the USDA or with its Italian cooperators, or on its own. Mobile exhibits have been built and provided our cooperators. These show the layman the different phases of soybean processing in a way understandable to all. Literature at various levels is being distributed at fairs and seminars, as well as to schools, for educational purposes to the younger generation —potential consumers today and the farmers, importers, and producers of tomorrow.

The Italian office of the Soybean Council of America has printed and distributed three major publications: "The Soybean Story"; "Italy's Margarine Industry"; "Italy's Mixed Feed Industry". These are aimed at reaching the U. S. producer interested in developing a market for his products in Italy. Also an Italian publication, "U. S. Trading Rules and Standard Specifications for Soybeans and Soybean Products," which has been a tremendous success among its Italian trade. All publications have been supplied to U. S. Embassy commercial offices and consulates throughout Italy, to FAO Headquarters in Rome, to the European Economic Community offices in Brussels, to public libraries, the trade, etc. They have almost become textbooks in their respective fields.

All these accomplishments are a reward in themselves. But another reward for this hard work will come from increased U. S.-Italian trade in soybean products, and from better, healthier, and less expensive food habits for the Italian people.

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Ontario Growers Ask $2.50 Support Price on Soybeans

A BRIEF, requesting a support price of $2.50 per bushel for Ontario soybeans sold between July 1, 1961, and June 30, 1962, was presented in Ottawa, Canada.

The Ontario Soya-Bean Growers Marketing Board's submission to the Agricultural Stabilization Board would increase the support price 50¢ per bushel over the $2 support price set by the Stabilization Board for the past 2 years.

German Meal Usage Is Up

By DR. KARL FANGAUF
Director for Germany, Soybean Council of America

THE CONSUMPTION of soybean cake and meal in the Federal Republic of Germany has regained its traditional first place among oil cakes and meals. Immediately after the war not enough soybean meal was offered and there was some question about a continuity of supplies due to the dollar shortage of the Federal Republic. With the advance of mixed feeds other vegetable meals gained ground and at times ranked close to soybean meal.

Dr. Fangauf

Increased demand affected developments. The fast buildup of milk cow numbers after the war led to an enormous demand for breeding cattle showing a high degree of productivity of milk and fat. Advice of scientists and consultants paved the road for usage of other oil cakes and Expeller meals.

The picture changed when increased quantities of soybeans were imported into Germany. With favorable prices of soybean meal, consumers could increase their usage of oil meals or use the flakes in mixed feed compounds. With this usage there are connecting links to the good experience of the past, even the distant past. The soybean is a name deeply rooted in the minds of traders and consumers, which is true of no other oilseed, and it soon regained its leading position.

In 1960, soybean meal from home production and from importers reached 40% of the total supply of oil cakes and meals.

This trend to more usage of soybeans has gone far but may not be regarded as completed. A still higher percentage of plant protein will be fed once livestock feeding is more balanced, as the optimum amount of protein in the ration has not yet been reached by the general feeder. And the demand will grow as animal stocks are increased each year.

One should mention especially the effect of toasted soybean meal. Only the fact that meal of this quality, and in particular the 50% protein meal, reached the market has made possible a special mixed feed which consists of three soya components, the meal, the oil and the lecithin.

The quantity of feeds used in the Federal Republic has grown with larger and larger animal stocks. The greater part, of course, came from home production, which, supported by cheaper fertilizers, has been promoted in particular in recent years.

But there has been an increase in feeds of all kinds. Imported feeds amounted to 6.75% of all feeds consumed in 1953-54, to 10.8% in 1957-58, and 14% in 1959-60. Imported feeds were mainly oil cakes and meals, the larger part soybean meals. Grain feeding amounted to 10.9 million tons in 1953-54, and reached 13.5 million tons in 1959-60. For the economical use of grains, no matter where, a high proportion of protein feed is needed.

It is necessary, however, to make sure that there is a continuity of supply of soybean meal in order to keep price fluctuation within limits. It should be taken into account that 50% to 60% of the oil cakes and meals, including soybean meal, go into the production of manufactured feeds. There should be a steady price situation for raw materials so the feed compounds can be offered to the consumers at standard prices.

Shelby Approved in Kansas

SHELBY SOYBEANS have been approved for release in Kansas as an early maturity variety expected to replace Adams. In long-time tests by the State Experiment Station Shelby outyielded Adams at each location. It matures about 8 days earlier than Clark, but Clark outyields it.

Though tested since 1952 in Kansas, Shelby seed is available only from Illinois, Indiana, Missouri and Iowa.

Dr. Glenn H. Beck, director of the Kansas Agricultural Experiment Station, said Shelby is expected to be used as an early maturing variety wherever soybeans are grown in Kansas. It may also be used with Clark to spread the combine season.

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Growing Scandinavian Poultry Industry

By EJVIND SONDERGAARD
Director for Scandinavia, Soybean Council of America, Inc.

Denmark

THE LIVESTOCK industry is of vital importance to the Danish economy. More than half of foreign exchange earnings come from exports of agricultural products, primarily animal products.

The swine population, now around 6½ million, is rapidly expanding. As skim milk is used more and more for cheese and other purposes, soybean meal becomes increasingly important as a protein source.

Ejvind Sondergaard

In the past when using soybean meal we have had difficulty in obtaining bacon quality equal to that from skim milk. Recent experiments by the government research committee on animal husbandry have proved that soybean meal can equal skim milk as a protein source. This should encourage a larger consumption of soybean meal in pig rations.

Competition from other vegetable proteins is minimal since under normal price relationships soybean meal is most economical. Proteins of animal origin have also been much more expensive up to now.

Production of poultry meat increased from 57.6 million pounds in 1955 to 124.6 million pounds in 1960. A further expansion is foreseen. The poultry industry represents a bright picture for increased consumption of soybean meal, which comprises a very substantial part of the protein in broiler rations.

Denmark imports soy protein mostly in the form of soybeans and crushes them locally. Some cake and meal is also imported. The United States furnished around two-thirds of the beans and 10% to 25% of cake and meal imported from 1955 through 1959.

Next to the Danish oil mills, West Germany is usually the largest supplier to the Danish market. However, many of the beans crushed in West Germany originate in the United States.

Danish imports of soybean oil are negligible. In fact, between one-half and two-thirds of the soybean oil produced in Denmark is usually exported.

Fat consumption is very high in Denmark, between 70 and 75 pounds per capita per year. But the Danes have become very conscious of the problem of arteriosclerosis and the role saturated fatty acids play in increasing the cholesterol content of the blood.

Recently, leading Danish nutritionists have been promoting soybean oil as a substitute for margarine and butter used in cooking. This substitution fully carried through would raise soybean oil consumption to 16 to 18 pounds per capita per year or around 35,000 metric tons. Of course, changing food habits is a slow process.

Increased margarine consumption may also offer possibilities of larger soybean oil consumption. Some decline in butter consumption is expected, and this will likely result in a greater margarine consumption unless the doctors' advice is followed and soybean oil is substituted for margarine.

Apart from "powdered foods," 900-calorie-type drinks and beer manufacturing, it is hard to find soy flour and grits on the Danish market. The Danes get a relatively well balanced diet close to the luxury level. But more and more people realize the need for fewer calories and more protein in their food. The use of flour, grits and isolated protein to increase the protein content in bread, cookies, pastry, meat products, and cereals and in dietary foods should be considered. It is obvious, though, it will require hard promotional work in Denmark where animal protein is comparatively cheap and highly esteemed.

Norway

Norwegian livestock production is geared to the home market exclusively and apart from the poultry industry, only moderate production increases due to population growth can be expected. Per capita consumption of livestock products is very high, and thus only a moderate increase in the demand for soy protein can be foreseen.

However, the poultry industry is just in its infancy in Norway, and consumption of poultry meat is low. It is reasonable to expect a sizable increase in broiler production in the future with a higher demand for soybean meal.

Whether U. S. soybean meal exports to Norway can be expanded depends on price relationships with other vegetable proteins and on U. S. meal prices being competitive with German, Danish or other oil meals. Imports of oilseed meals to Norway have amounted to approximately 100,000 metric tons during each of the past 2 years, of which soybean meal accounted for only 20% to 25%.

Since there is an increasing demand for soybean oil in Norway and since Norwegian crushers have unused capacity, crushings in Norway will likely increase and bring more home-produced meal on the market.

Norway's soybean imports have increased substantially during the past few years and she is now importing around 70,000 metric tons annually. Most of these beans are of U. S. origin, and Norwegian oil millers say the price advantage of Chinese beans must be very substantial before they will switch.

Increasing quantities of soybean oil are now being used in margarine production. Coconut oil and peanut oil have been used mainly in margarine, but for a number of reasons a marked switch to soybean oil has occurred.

Nutritionists are encouraging the

DANISH IMPORTS OF SOYBEANS AND SOYBEAN CAKES AND MEAL 1955 THROUGH 1960

	Total metric tons	Soybeans from the U.S. metric tons	Percent from the U.S.	Total metric tons	Soybean meal from the U.S. metric tons	Percent from the U.S.
1960	365,809	239,079	63	159,958	131,413	82
1959	287,992	169,412	59	112,541	14,316	11
1958	181,575	136,041	75	68,401	7,366	11
1957	151,094	128,394	85	99,385	20,328	21
1956	138,768	106,399	77	117,317	29,115	25
1955	83,090	70,418	85	101,776	20,763	20

Source: The Danish Statistical Department.

substitution of soybean oil for butter and margarine for health reasons. Also, more oil may be required for technical uses. Most of the oil will come from Norwegian crushings, which in 1961 are expected to amount to some 70,000 metric tons of a total capacity of over 100,000 metric tons. Norway's imports of soybean oil have never been very large—500 to 1,000 metric tons a year for the past 4 years.

The Norwegians also get a well balanced diet and, compared to most other countries, a rather luxurious one. Soy flour has been introduced on a small scale as an enricher in white bread. There is good reason to believe that soy flour, grits and isolated proteins can be successfully introduced for many other purposes.

Sweden

Sweden has a well developed industry and is the richest of the Scandinavian countries. Natural conditions for agricultural production are not as good as in Denmark but better than in Norway. The policy in Sweden is as far as possible to be self-sufficient in basic farm products. This goal has been reached by means of regulatory measures. But supplementary feedstuffs must be imported.

No great expansion in Swedish production of livestock products can be expected, except for the poultry industry which is by no means fully developed.

Sweden has a considerable production of rape and mustardseeds, for which farmers are offered a guaranteed price. But the trend is clearly toward a declining acreage and production. Average yearly production of the two crops in 1952-55 amounted to some 145,000 metric tons, but in 1956-59 the average declined to some 110,000 metric tons.

Until 1960 very little soybean oil was used in Sweden. Raw materials for the margarine industry consisted of various fats and oils, with rape and mustard oil, coconut oil, and marine oils by far the most important ingredients.

Because of the growing awareness of the problems of arteriosclerosis an increased demand is developing for corn oil and soybean oil which contain more unsaturated fatty acids. This may bring soybean oil into margarine also.

The only oil mill in Sweden, at Karlshamn, is in the process of doubling its capacity. If fully utilized, this will mean that the plant will import 80,000 to 90,000 metric tons of soybeans or comparable oilseeds a year. Until 1960, a very small amount of U. S. oilseeds was crushed.

Swedish consumption of soybean meal varies according to the feed situation and domestic production of oilseeds, but totaled some 120,000 metric tons a year for the last 2 years, all of which was imported. The expanded Karlshamn plant will fill most of this need. Some of the oil produced by the plant may have to be exported at first.

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PORT OF NEW ORLEANS U.S.A.

Soybeans for the Arab World

By ANDRE TAWA

Director for UAR, Soybean Council of America, Inc., Cairo, Egypt

THE NILE VALLEY from Aswan to the Mediterranean supports 26 million people, mainly engaged in agriculture.

In 1952 the country set out on an industrial reawakening which has resulted in a marked increase of per capita income allowing people to provide more adequately for the basic requirements of proteins, fats and oils.

Andre Tawa

The Soybean Council chose Cairo to set up an office to serve the Arab World comprising 60 million inhabitants in Africa and Asia. Taking the area as a whole, fats and oils consumption is estimated at 10 kilos per year per person, and totals 600,000 tons a year. The demand is partially met by foods produced in the various regions.

- Egypt produces about 120,000 tons of cottonseed oil and imports about 50,000 tons for 26 million people.
- Syria uses sheep fat for 4 million people.
- North Africa produces mainly olive oil, for 12 million people.
- The Arab Peninsula, including Jordan and Lebanon, rely mainly on imports for their supply of fats and proteins for 18 million people.

All these countries are catching up industrially and the same phenomenon in each is witnessed—incomes rise and food consumption goes up accordingly.

At the recent Cairo Fats and Oils Symposium, the whole question was carefully studied by prominent scientists and two Egyptian Ministers. It was unanimously decided that soybeans and their products have helped and will continue to be needed in aiding nutrition in this area.

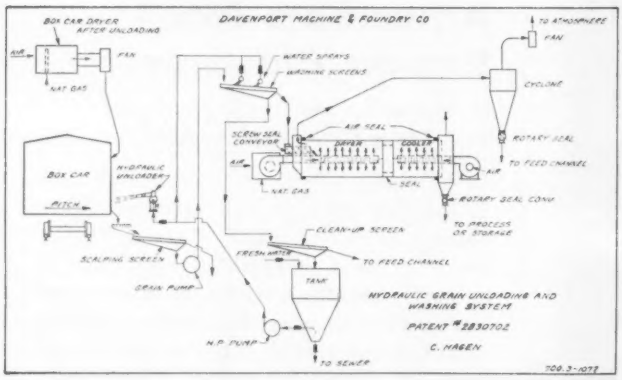
As an example, Egypt imported 6,000 tons of oil in 1959 for use in soap. In 1960, 17,000 tons were used in vegetable butter manufacture and the demand is constantly rising. The housewife is switching from higher priced animal fats to the good, cheap vegetable shortening that is available.

As prosperity increases in the area the potential demand will continue to grow and will eventually build up into an interesting dollar market for U. S. soybean products to provide essential oils and proteins for an advancing people.

Myers-Sherman Mill Shown at Cairo Fair

C. ROBERT MYERS, president of Myers-Sherman Co. (second from left), explained operation of compact feed milling unit to representatives of the Soybean Council of America at recent Cairo, Egypt, International Agricultural Exhibition. Left to right, Andre Tawa, the Council's Egyptian director; Mr. Myers; Dr. Jake L. Krider, vice president; and Howard L. Roach, president of the Council. Mr. Myers operated the mill throughout the month-long show, explaining not only its operation but also the benefits of using complete feeds to a large share of the more than 1 million visitors who attended.

Designed and manufactured by the Myers-Sherman Co., the unit consisted of a scale-mounted ingredient hopper, roller mill, vertical mixer, finished feed hopper, and a small elevator leg. Its simplicity and economy appealed greatly to foreign visitors.



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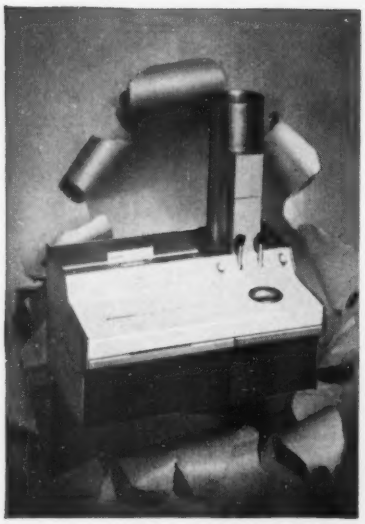

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—Photo by Mrs. Javier de Salas

POSTERS PROMOTING olive oil have been placed recently along Spanish roads by the Institute of Propaganda of Olive Products. The olive oil interests did not consider such publicity necessary until the introduction of soybean oil into Spain.

Soy Outlook Is Bright

By JAVIER DE SALAS

Director for Spain, Soybean Council of America, Inc.

THE SOYBEAN COUNCIL'S operations grew substantially in Spain in 1960, not only from the standpoint of increased activities but in positive results as well.

Javier de Salas

During 1960 the Council organized, together with the Spanish cooperators, meetings in Santander, Burgos, Zaragosa, and Madrid. The success of the meetings was such that we have so many requests for meetings on both human and animal nutrition that we must turn down half of them.

The Nutrition Magazine and the Oil Magazine, which are published by the Council in Spain, have gained wide acceptance and we have had to increase the circulation of both publications.

The most important achievements are:

1—The Spanish government has officially acknowledged, through the Ministry of Commerce, the existence of a soybean oil market separate from the traditional olive oil market.

2—Authorization has been granted permitting pure soybean oil to be bottled and labeled and sold as such. The previous attitude of the government was that only olive oil could be sold as such.

In view of the newly prevailing atmosphere, the Council has adopted more of a hard sales approach. The first project started under this new approach was the meeting held in Seville, in March, with the theme, "Soybeans in Nutrition and Industry."

The meeting held in the center of the olive oil area was an experiment to test how this more direct approach would work out in Spain. We can now say the results have been outstanding.

At this Seville meeting, Dale McMillen, president of Central Soya, Fort Wayne, Ind., delivered a paper on, "What Soybeans Products Have Meant in the Development of the U. S. Nutrition Industry." The Comisaria, buying agency of the Spanish government, lent its two top technicians, Dr. Ramon Lengaran and Dr. Elias Palau, to deliver papers on the importance of soybean products.

The opening speakers, Dr. Martinez Moreno and myself, emphasized the close cooperation between the soybean and olive interests. This attitude resulted in a nationwide coverage of the meetings and in assurance of continued and full support of the Council's activities by the Spanish trade groups.

The Soybean Council had rather avoided activities in the olive oil belt in the past. But as a result of these meetings the Council reversed its policy and presented a stand at the Seville Trade Fair in April with considerable success.

Also, the next week of studies on animal nutrition, the big event of the year organized by the Council in Spain, will be held in Seville in February 1962. This event annually draws about 600 attendants from all over Spain.

We can now say that soybean products will be imported into Spain more and more in future years, for the following reasons:

Soybean oil. The average annual deficit of Spanish edible oil production is about 150,000 tons per year. The attitude of the Spanish government and the Spanish trade groups toward soybean oil has improved to such an extent that more and more Spanish interests are doing our job for us—that is, defending soybean oil.

Soybean meal. This product has been accepted as an essential ingredient by the Spanish mixed feed manufacturers. At the various meetings organized by the Council, official statements have been made jointly by the Spanish poultry cooperatives and the mixed feed manufacturers that soybean meal is a must for the development of the Spanish livestock and poultry industry.

The Spanish government very recently decided to allow the direct purchase of soybean meal by consumers. It is expected that this decision will result in increased consumption due to the better prices obtained.

A moderate estimate of the imports of soybean meal in Spain in the near future is 100,000 tons per year compared with no imports at the start of the Council's operations, and 40,000 tons in 1960.

Soy flour. The interest engendered by the experiments carried out by the Council with soy flour in bread and in the Spanish diet, will result in an increased demand for soy flour. We hope that the Spanish Army will request soy flour in the near future in order to improve the nutritive qualities of its rations.

Exporting More Is Key to Gold Drain

SELLING MORE American products abroad is the key to stopping the drain of American gold to foreign countries, an internationally known financial authority declared recently at the University of Illinois.

Nicholas Nyradi, director of international studies at Bradley University, told a group of agricultural businessmen that the favorable balance of American export trade in 1960 presents the only silver lining to the somber picture of our deficit in international payments.

Nyradi labeled our favorable $5 billion balance of trade in 1960 an economic miracle. It was achieved despite higher costs of production than our competitors had.

American export trade could be increased by trying to sell our $8 billion worth of farm surpluses on the world market, Nyradi stated. This would have to be done at depressed prices, he admitted. But the premiums paid to farmers would help to improve our balance of international payments instead of bursting the storage bins of the Commodity Credit Corp., he reasoned.

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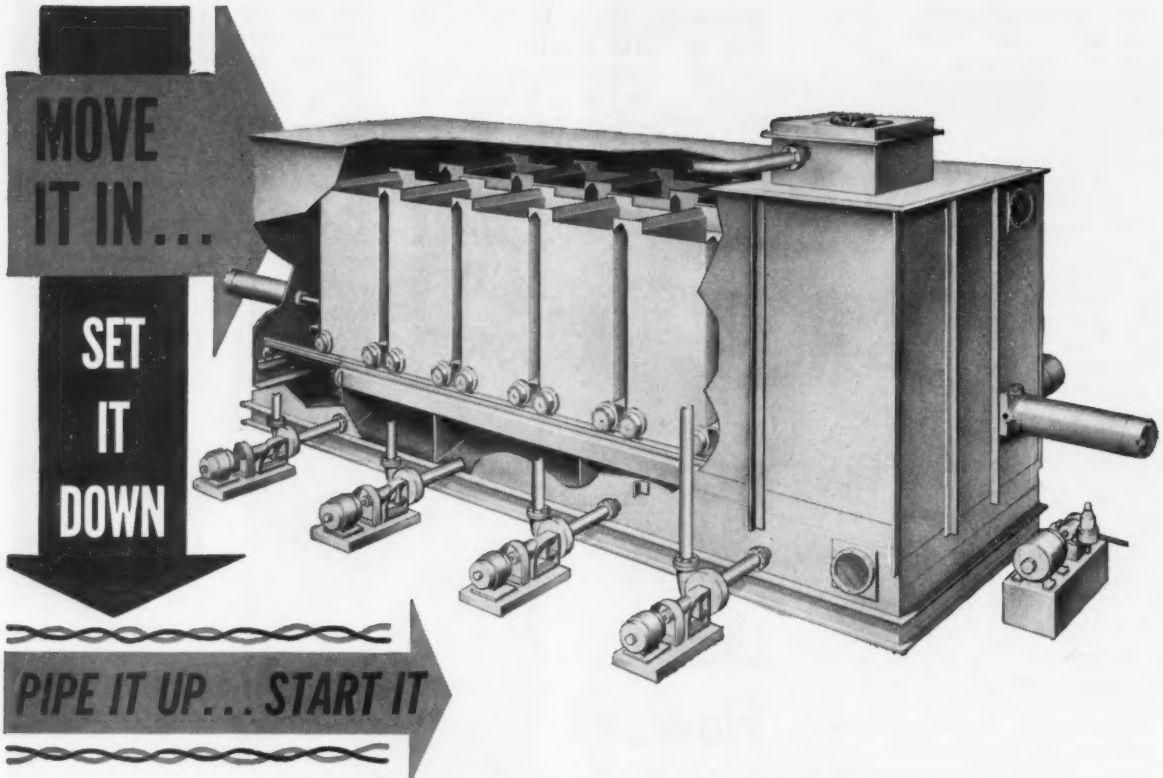

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SOYBEAN COUNCIL OF AMERICA—ISRAEL

CHILDREN of the Hafetz Haim Orphanage, Jerusalem, eat lunch containing soy flour prepared for them by the Soybean Council of America.

Role of Soy Products In Israel

By JOSEPH MAZUR
Director for Israel, Soybean Council of America

ISRAEL DECLARED her interest in the use of soy flour for human nutrition some several years ago, when by government promulgation all flour used for baking had to be supplemented with 2%-3% soy flour. This was at a time of severe food rationing in Israel, when there was a shortage of animal protein such as egg, poultry and meat. Even with the increased supply of animal protein in the years 1958-60 resulting from the large-scale development of the poultry industry, the government of Israel did not dispense with the addition of soy flour to the national bread.

Joseph Mazur

A survey of the nutritional level of the various groups of the population made recently by the Government School of Nutrition, has shown that a general increase in the supply of proteins has resulted in a higher average intake per capita but that certain lower-income groups, particularly in areas of new development, still have a low intake of protein.

Prices of animal protein in Israel are comparatively high and in enlarged families the diet is much higher in carbohydrates than in protein. Therefore, steps are being contemplated and in some areas measures have already been taken to provide bread which is supplemented with up to 10% soy flour. Among the Beduin population of the Negev this has already been done for the last 1½ years.

Medical institutions in Israel have started to pay attention to the possible use of soy flour in child feeding. An infant food preparation called "Soyatamin" has been on the market for the last year. This product, which contains a high percentage of specially prepared soy flour, is recommended by the sick fund of

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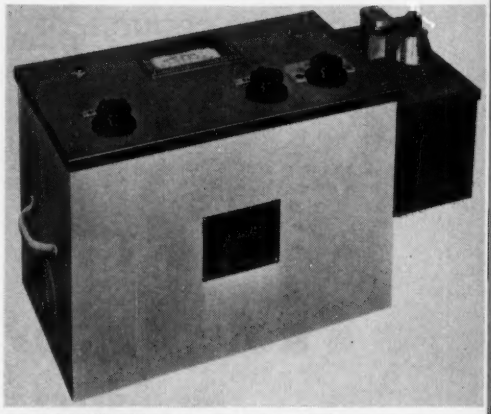
the General Federation of Labor (Histadrut). The School Welfare free lunch scheme has shown wide interest in the use of soy flour in daily lunches, and the Soybean Council has given food demonstrations in various schools. In addition, hospitals and closed institutions are expressing a growing interest in the use of soy flour. The Israel office of the Soybean Council has been approached by such organizations for technical assistance in the use of soybean products.

But the most important achievement will probably be attained with the introduction of soy flour in the most popular national dishes, which are actually the main foods of the lower-income groups. These are oriental dishes and will contain up to 25% soy flour.

Several food industries have already come out with food products where soy flour is one of the main ingredients and more products are in the stage of development. For this purpose, initial orders of soy flour from American manufacturers have been made through the Israel office of the Soybean Council of America.

Another feature of interest is the demand by food health stores, catering particularly to vegetarians and others, for soy flour and soybeans. In Israel, the switch from animal protein to vegetable protein has become a matter of fashion in many circles. The Israel office of the Soybean Council is now working on making available edible varieties of soybeans for this purpose. There is also interest on the part of local manufacturers in producing special low-calorie preparations based on soy flour on the pattern of such products now available in the United States.

As Israel is becoming a center for training for many nations of the African and Asian continents, it is planned to make experiments in Israel, the results of which will be available to these new nations. Training foreign visitors, after learning their food habits with the aim of teaching them how a low-protein diet can be improved by the addition of soya and its products, will be the main activity of the Israel office of the Soybean Council of America the coming year.



STEINLITE fat and oil tester.

Many U. S. Firms Use Quick Fat, Oil Test

A METHOD of determining the oil content of soybeans in 15 minutes or less, as contrasted with the several hours required by the official method of the American Oil Chemists' Society operated by U. S. government-approved chemists, was developed some years ago by grain technologists of the U. S. Department of Agriculture in cooperation with a commercial firm.

The Steinlite Fat and Oil Tester, based on this method, was introduced commercially in 1951. Many U. S. soybean processors and others have been using the new method since that time. The tester is now also available outside the United States.

The equipment is also used on a wide variety of oil-bearing products including flaxseed, peanuts, cottonseed and others.

The test is simple enough so that it is easily performed by nontechnical personnel in about 9 minutes on the average. Results are accurate to within ½%.

Tests are made by mixing and blending weighed sample with a definite volume of solvent. This mixture is then filtered and the filtrate is poured into the test cell. The resulting meter reading is then converted to oil or fat content by comparison with a simple conversion chart.

Thomas M. Moran has been appointed assistant manager of chemical sales in the Houston, Tex., office of Signal Oil & Gas Co. He has been with the firm in the eastern division for more than 6 years. Replacing him as New York district manager is Joseph A. Savoca, who has been sales representative for the company.

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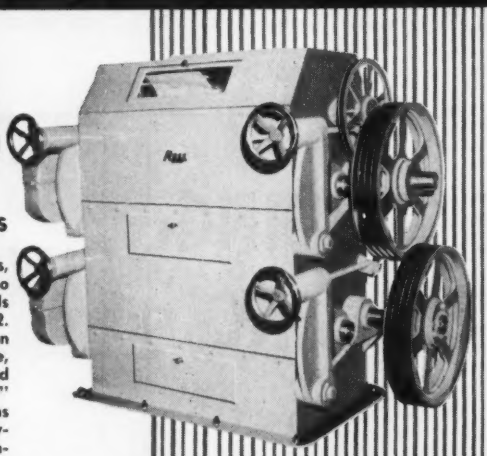

Unequalled for soybeans, corn, milo, etc.! Comes also in Three-High, with rolls 10 x 30, 10 x 36 & 10 x 42. Super-rugged construction for hard, 24-hour service, featuring exclusive solid chilled iron "Turn-Tuff" Rolls. Special corrugations for salt, potash, corn, soybeans, etc. All-Steel construction; oversize roller bearings throughout.

Special Soybean Corrugations from 4-5 to 12-14 per inch, or to specifications.

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MACHINE & MILL SUPPLY, INC.

Roller Mills, Turn-Tuff Rolls, Corrugating
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Ross Machine & Mill Supply, Inc.
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Pneumatic Grainvayor loads or unloads . . .

Ships and barges
Trucks and boxcars
Buildings and storage facilities

Pick any bean or grain conveying job you can think of . . . the tougher the better. If you can get a pneumatic pipe to it, the Grainvayor will convey it . . . around corners and obstructions, up heights as high as 150 feet, across distances greater than 500 feet, at capacities up to 4,000 bushels per hour.

Because it's the most versatile conveying system you can buy, it replaces a number of fixed conveyor installations, performs many jobs with ease that would be impossible with any other conveying method.

One man is all it takes to move it from job to job and operate it exactly where and when it's needed.

Best of all, Grainvayor cleans and upgrades while it conveys . . . screens out dust, dirt, insects, rodent pellets, and other foreign materials with its patented Kwik-Kleen vacuum separator.

Find out how Grainvayor can make versatile bulk material handling easier and more profitable for you. Phone or write for complete details on the pneumatic Grainvayor and the many things it can do to save you time and money.

**P.S. It does as much, saves as much for inland operations, too.*

DESIGN FEATURES

Overall Height	110 inches
Overall Length	124 to 134 inches
Overall Width	72 to 82 inches
Ground Clearance	12½ inches
Turning Radius	14'3" to 15'1"
Weight (approx.)	4485 to 6780 lbs.
Available Engines:	General Motors 6-71 Diesel Cummins J-S-6P Diesel International UR 450 International UV 549 Continental 427
Engine Horsepower	84 to 182 H.P.
Engine Speed	1800 to 2700 RPM
Compressor	Turbo-Jet Centrifugal, Multi-Stage design
Fan Blades	Aluminum die-cast involute curves for accuracy & efficiency
Fan Diameter	38 inches
Fan Housing	3/16" First Stage and ¼" Plate on Final Stage
Air-Lock Valve	Hydraulic, rotary, automatically reverses to clear foreign material blockage
Cyclone	10 gauge upper construction with 12 gauge abrasion-resistant cone
Bearings	2 7/16" Fafnir, heavy-duty LAO Pillow Blocks
Shafting	Turned, ground, and polished high tensile alloy steel

(NOTE: Multiple specifications indicate the range covered by various models)

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of

Soybean Products

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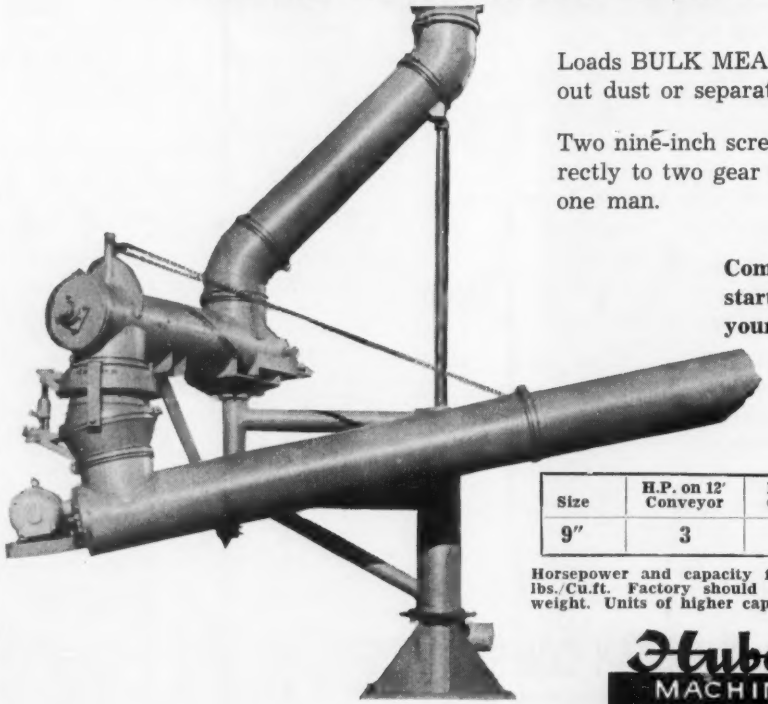

Loads BULK MEAL into boxcars or trucks without dust or separation.

Two nine-inch screw conveyors are connected directly to two gear motors . . . easily operated by one man.

Comes complete with gear motors, starters and base ready to install on your concrete foundation.

Size	H.P. on 12' Conveyor	H.P. on 5' Conveyor	Cu. ft. Per Hr.	Ton Per Hour
9"	3	2	1840	36.8

Horsepower and capacity figured on material weighing 40 to 45 lbs./Cu.ft. Factory should be consulted for material of different weight. Units of higher capacity are also available.

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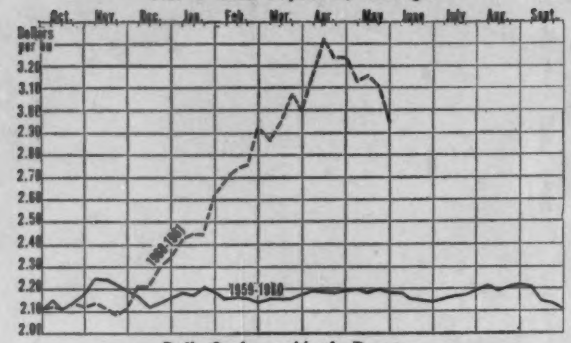
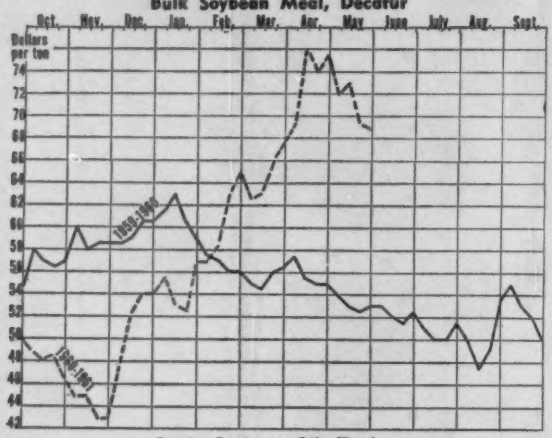
TRENDS AT A GLANCE (Weekly Close)

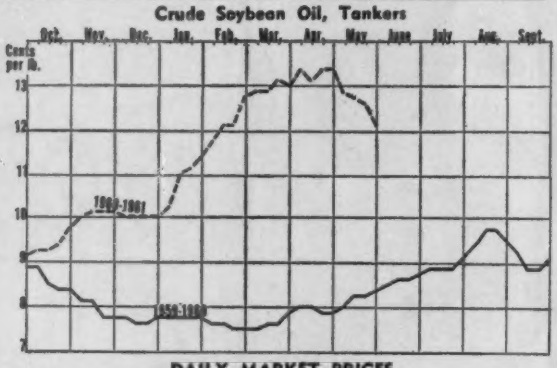
No. 1 Cash Soybeans, Chicago



Bulk Soybean Meal, Decatur

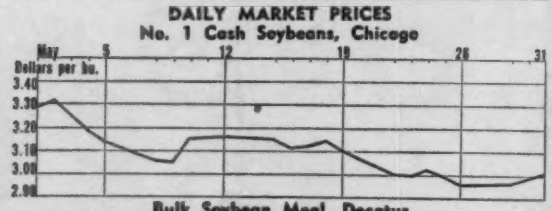


Crude Soybean Oil, Tankers

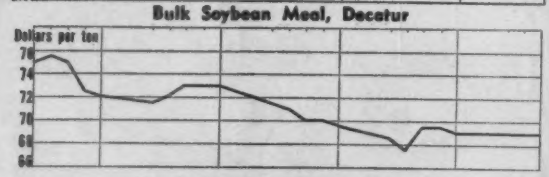


DAILY MARKET PRICES

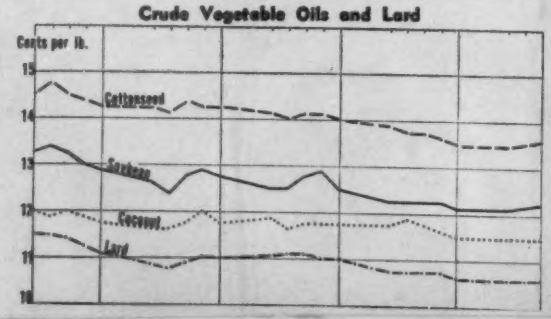
No. 1 Cash Soybeans, Chicago



Bulk Soybean Meal, Decatur



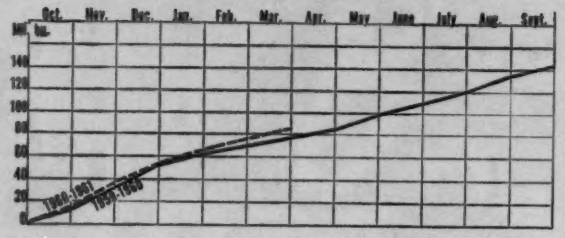
Crude Vegetable Oils and Lard



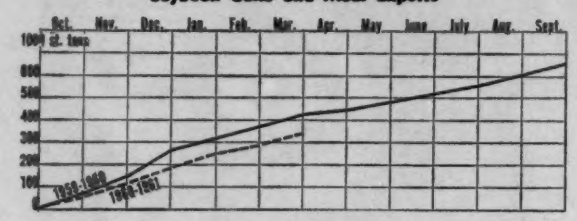
EXPORTS 1959-60 AND 1960-61

Cumulative year beginning Oct. 1

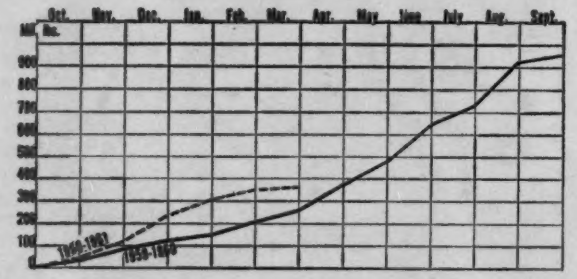
Soybean Exports



Soybean Cake and Meal Exports



Soybean Oil Exports



CASH PRICES, MAY 1961*

May	No. 1 yellow soybeans Chicago	Bulk soybean meal Decatur	Soybean oil Decatur	Cottonseed oil Mississippi Valley	Coconut oil Pacific Coast	Lard Chicago
1	$3.28¼	$75.00	$.13¼	$.14½	$.12	$.1150
2	3.31	75.50	.13⅜	.14¾	.11⅞	.1147
3	3.25	75.00	.13¼	.14½	.12	.1140
4	3.18	72.50	.13	.14⅜	.11⅞	.1120
5	3.13¼	72.00	.12⅞	.14¼	.11¾	.1107
6	Saturday					
8	3.05¼	71.50	.12⅝	.14¼	.11⅝	.1085
9	3.05	72.00	.12⅜	.14⅛	.11⅝	.1075
10	3.15	73.00	.12¾	.14⅜	.11¾	.1090
11	3.15½	73.00	.12⅞	.14¼	.12	.1102
12	3.16	73.00	.12¾	.14¼	.11¾	.1100
13	Saturday					
15	3.15	71.50	.12½	.14⅛	.11⅞	.1105
16	3.10½	71.00	.12½	.14	.11⅝	.1110
17	3.12¼	70.00	.12¾	.14⅛	.11¾	.1110
18	3.14¾	70.00	.12⅞	.14⅛	.11⅞	.1100
19	3.10¾	69.50	.12½	.14	.11⅞	.1100
20	Saturday					
22	3.00¾	68.50	.12¼	.13⅞	.11⅞	.1075
23	2.99¾	67.50	.12¼	.13¾	.11⅞	.1075
24	3.02¼	69.50	.12¼	.13¾	.11¾	.1075
25	2.99½	69.50	.12¼	.13⅝	.11⅝	.1075
26	2.96¼	69.00	.12⅛	.13½	.11½	.1062
27	Saturday					
29	2.97	69.00	.12⅛	.13⅛	.11½	.1062
29	Memorial Day					
31	3.01¼	69.00	.12¼	.13⅝	.11½	.1062

* From Wall Street Journal, Chicago.

1959 AND 1960 SOYBEAN CROPS

	1960	1959
Total soybeans placed under price support as of Apr. 30	25,614,699 bu.	52,366,000 bu.
Total soybeans withdrawn from support as of Apr. 30	22,092,000 bu.	8,034,372 bu.
Soybeans crushed Oct. 1-Apr. 30	250,633,000 bu.	237,580,000 bu.
Exported Oct. 1-Apr. 30	93,423,000 bu.	83,896,000 bu.
Balance on hand May 1 for processing, export or carryover	202,931,000 bu.	234,816,000 bu.
Total soybeans inspected for overseas export plus lake shipments to Canada Oct. 1-May 26	104,400,000 bu.	95,700,000 bu.

ONE OF banquet speakers at the Lima symposium was Ing. Jacobo Zender, secretary general, Ministry of Agriculture, government of Peru.

SOYBEAN Council sponsored the official banquet at the first annual animal nutrition symposium in Lima, Peru, in May. Left to right Dr. and Mrs. Teodoro Ramos Saco, National University of San Marcos; R. W. Fischer, assistant to the Council president; and Clarence Pike, U. S. agricultural attache at Lima. Between 200 and 300 attended the symposium, which was cosponsored by the Council and the College of Agriculture, Lima. Participants came from the United States, Mexico, Brazil, Spain, and Norway.

SOYBEAN COUNCIL OF AMERICA, INC.

To Open Four More Council Offices

A MEASURE of the farflung and rapidly expanding nature of the Soybean Council's worldwide market development activities is the fact that the Council will soon open four new area offices and has at least one other under active consideration. The new offices have been approved by Foreign Agricultural Service, U. S. Department of Agriculture, and will be actively in charge of the Council's market development work in the respective countries.

The Council will establish an office for the United Kingdom in London, England. Reginald I. Wood, Weybridge, Surrey, England, has been named UK director for the Council.

There will be an office at Ankara, Turkey, with Vasfi Hakman, Ankara, director for Turkey.

An office will be opened in Karachi, Pakistan, with Atta Hasan the Council's Pakistan director.

The Council will open an office in Lima, Peru, in August, with Dr. William O. Ivanissevich in charge. Dr. Ivanissevich is a graduate of the College of Medical Sciences and a large-scale farmer.

A Council office in Iran is also under consideration.

The Council now has area offices in Rome, Italy; Madrid, Spain; Jerusalem, Israel; Bombay, India; Rotterdam, Netherlands, Cairo, Egypt; Hamburg, Germany; and Copenhagen, Denmark.

Establish Test Kitchen For Soy Foods in Israel

AN AGREEMENT to establish a test kitchen for the development of soy foods was concluded between the Soybean Council of America and the school of nutrition of the Ministry of Education of Israel during the recent visit of Howard L. Roach, Council president, and J. L. Krider, vice president.

The test kitchen will serve as a center of training in the preparation of soy dishes not only in Israel but also for countries with which Israel is in close contact, in the Mediterranean, Asia and Africa.

Mr. Roach and Dr. Krider met with representatives of the Israel oil crushers and mixed feed manufacturers and the Israel branch of the World Poultry Science Association, when plans were worked out for exchange of technical assistance and for an international symposium to be held in Israel in July.

The two Council officials also attended a 1-day symposium on soy protein at the Weizmann Institute of Science at Rehovot.

A highlight of the visit of Mr. Roach and Dr. Krider to Israel was a visit with David Ben-Gurion, Prime Minister of Israel, at his home. Mr. Ben-Gurion expressed considerable interest in the work of the Council.

DID YOU MISS THIS 885% PROFIT IN SOYBEANS?

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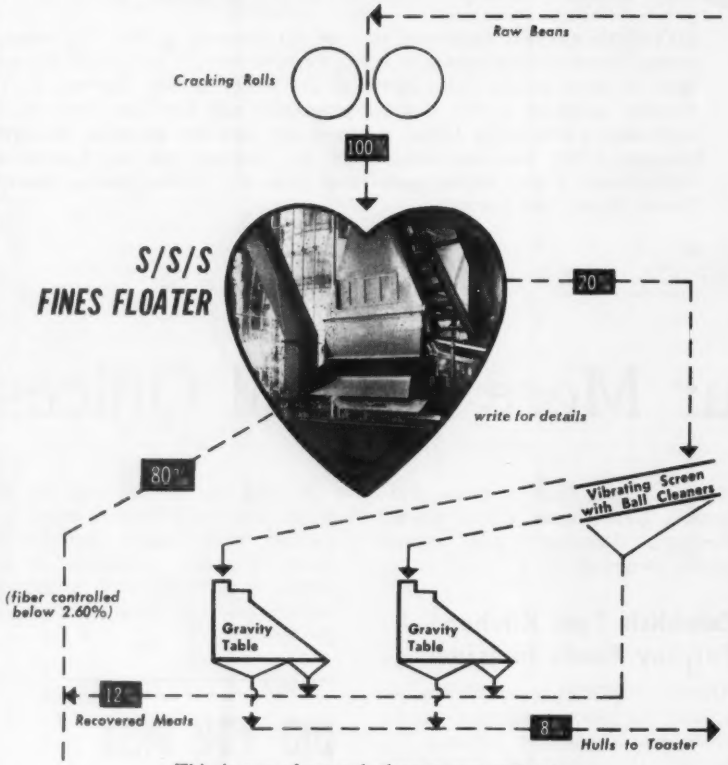
how S/S/S can dehull 80% of raw cracked beans before you can say "FINES FLOATER"!



This is one of several plant-proven systems which more than meets the demand for 50% protein meal. Heart of the short closed circuit (requiring as little as 600 sq. ft.) is Sutton, Steele & Steele's *FINES FLOATER*.

PATENTED. OTHER PROCESS PATENTS APPLIED FOR.

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Three Technical Men on European Assignments

THREE TECHNICAL representatives of soybean processing firms will represent the Soybean Council of America on European assignments this summer.

They are W. W. Cravens, McMillen Feed Mills; S. O. Sorenson, Archer-Daniels-Midland Co.; and E. D. Griffin, Allied Mills, Inc.

Mr. Griffin of Evanston, Ill., a member of the board of directors of Allied Mills, Inc., and recently retired as vice president in charge of sales for that firm, will represent the Soybean Council of America with the Council's mobile livestock feeding exhibit in the Scandinavian countries and Austria this summer.

Mr. Griffin, serving as a technical specialist for the Council, will work with livestock feeders, small feed formulators and mixers in the above countries. The Council is operating the mobile feed grain and protein exhibit in a number of European countries and this will be the third year the exhibit has been in operation. The U. S. Feed Grains Council will also have a representative with the exhibit.

Mr. Griffin, who is a member of the executive committee of the American Feed Manufacturers Association, will go first to the 8th International Livestock Breeding Congress at Hamburg, Germany, June 12-18. Then he will take charge of the exhibit at Copenhagen and Odense, Denmark; Herning, Sweden; Rohrback, Ried, and Vienna, Austria.

He will return to the United States late in September.

Dr. Cravens, director for feed research, McMillen Feed Mills, Decatur, Ind., will go to Europe in June in behalf of the Council's program. He will visit Germany, Belgium, France and Italy.

W. W. Cravens

He will meet with leading north European feed manufacturers at the 13th International Congress of Animal Production in Hamburg, Germany, beginning June 12. And he will participate in the 14th National Mixed Feed Conference in Rome June 19-22.

Dr. Sorenson, former vice presirent of Archer-Daniels-Midland Co. in charge of research, and now of Mt. Dora, Fla., will represent the Soybean Council at the International Trade Fair in Poznan, Poland, June 11-25. Dr. Sorenson retired in 1955.

Staff Conference for Council at Stockholm

A STAFF CONFERENCE and training school for the Soybean Council's area directors was held in Stockholm, Sweden, May 29-June 9. On the program were Council and Foreign Agricultural Service officials, and the manager of the Japanese American Soybean Institute. Directors of the SBCA area offices in the various parts of the globe were present for the 10-day school.

Speakers at the conference included:

W. A. Minor, assistant administrator of management, Foreign Agricultural Service, Washington.

Ken Krogh, chief, international trade fairs branch, FAS.

Walter Sikes, director, fats and oils division, FAS.

Volorus H. Hougen, chief, foreign marketing branch, FAS.

Shizuka Hayashi, managing director, Japanese American Soybean Institute, Tokyo, Japan.

Geo. M. Strayer, executive director, SBCA, Hudson, Iowa.

Howard L. Roach, president, SBCA, Waterloo, Iowa.

J. L. Krider, vice president, SBCA, Fort Wayne, Ind.

Franco Oddone, administrative officer for foreign operations, SBCA, Rome.

R. L. Fischer, assistant to the president, SBCA, Waterloo, Iowa.

Mr. Strayer left the United States May 25 and will return June 16. He will attend the International Association of Seed Crushers Congress and visit oilseed crushers in Norway and Denmark while in Europe.

New Processing Corp. At St. Cloud, Minn.

ST. PAUL-MINNEAPOLIS, Willmar, and St. Cloud, Minn., businessmen have formed a new corporation and acquired the name and assets of Central Minnesota Processors, Inc.

The acquired firm was formed as a cooperative approximately a year ago for the purpose of establishing a soybean processing plant west of St. Cloud. It was an outgrowth of the old St. Cloud Canning Association.

Heading the new firm is C. E. Root as president. Ralph S. Parker III was named secretary, and James P. Penn, treasurer. All three are from Minneapolis.

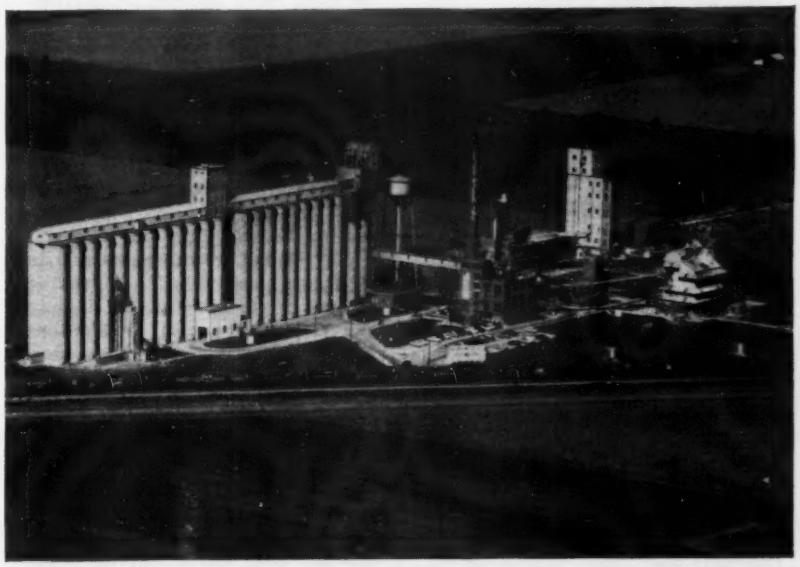
Mr. Root formerly was associated with Kodiak, Inc., as founder and president. He also was a vice president of Industrial Credit Co., St. Paul. Mr. Parker is a Minneapolis attorney and Mr. Penn, president of J. P. Penn & Co., Minneapolis securities dealer.

Directors of the company include: Oliver H. Riedel, Willmar; Peter J. Penn, Minneapolis; Bernard M. S. Kegan, St. Paul; Robert S. Blumberg, Minneapolis; Root, Parker, and James P. Penn.

The company plans an 80-ton-per-day solvent extraction plant, which will operate 24 hours a day, 7 days a week. Total cost for construction will be $500,000.

"Plans also call for not only the establishment of this plant in the St. Cloud area," Mr. Root said, "but in other areas throughout the state as well. In the 17-county area around St. Cloud alone some 5 million bushels of soybeans are raised annually."

Construction of the new plant is scheduled for completion in September.



This is Allied Mills, one of the largest and most modern soybean processing plants in the world.

Here . . . in Taylorville, Illinois . . . the soybean extraction plant was designed, engineered, and constructed by Weitz-Hettelsater Engineers. Facilities also include 1,650,000 bushels of storage, flake preparation building, and complete machinery.

Throughout more than 40 years of specialized service to the grain and feed industry, we've engineered and constructed many of the major facilities throughout North America.

We'll be glad to show you what we've done for others . . . talk about what we may be able to do for you.

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All Prospects Are Up

By GEORGE PETER

Washington correspondent for the Soybean Digest

LIKE PROGRESS in the space age, all prospects for soybeans are up... up... up. That's how USDA sees it in its latest report on the Fats and Oils Situation—only more down to earth. Expansion will be big, but as broad as it is long. More income will be made on volume, while prices remain reasonably in check.

You get this outlook from the multitude of midseason statistics on trends offered—all up. Add to this higher price supports, greatly increased acreage coming up, and bigger export demand for both dollars and P. L. 480 sales, and that rounds it out.

In a special article the report carries as an added feature, USDA's George W. Kromer says on trends:

"Demand for soybeans, soybean oil, and soybean meal will continue to increase both domestically and abroad. Long run prospects indicate that U. S. soybean production will continue upward to meet the expanding market outlets. Within the next 10 to 15 years soybean output probably will reach the billion-bushel mark." And the author thinks this is a conservative estimate.

Bigger production—how much? Officially you'll have to wait for the July 10 crop report for the first government estimate of bean plantings for the new season. Unofficially, you can get estimates of at least a 3-million-acre increase in production. Higher price supports announced since original planting intentions were counted and restrictions on other crops have greatly increased production prospects.

Field reports now reaching USDA are even more bullish, production-wise. Confirming estimates first appearing in the Soybean Digest last month, big growing areas are reporting instances of increases ranging from 10% to 25%. If these prove widespread, this season's crop will be a whopping one indeed.

Higher price support—new export role. The higher price support of $2.30 for the new crop may turn out to play an important double role in the export market ahead—depending on final production figures. It may help increase export possibilities through larger supplies and keep prices domestically from slipping below the average $2.33 per bushel to farmers for the 1960 crop at the same time.

Higher prices of U. S. fats and oils coupled with reduced supplies for the 1960-61 marketing year tended to hold down exports of these commodities, says USDA. At the same time, too sharply increased production in the new season could otherwise drive prices down to the former support level of $1.85. The $2.30 support for the new season is expected to hold down some of the wilder swings of the recent market.

Until the new harvest—the situation. Exports of cottonseed and bean oils the second half of the current marketing year are expected to total about 1.5 billion pounds compared with last year's record 1.459 billion. Well over half of the sales will be for dollars—the remainder in P. L. 480. Bean exports should total 141 million bushels.

Production, exports, and domestic disappearance estimates indicate stocks of cottonseed and soybean oils on Oct. 1, 1961, of around 500 million pounds, about 25 million pounds under a year ago. Other food fats stocks will be down at least 20%, the lowest since 1957.

Wholesale prices of bean oil, cottonseed oil, and lard shot up more than a third from October through April 1960-61, the largest rise in any comparable period since 1955-56. More of the same is expected for the rest of the summer, averaging out considerably over the same period last year.

Bean crushings estimates have been up 5% for October-April 1960-61, or 13 million bushels over last year. Crushings for the year are now estimated at 405 million bushels, compared with 392 million last year and the 401 million record in 1958-59. On this basis, average grind of about 31 million bushels per month would be needed from May through September, about the same as last year.

On an oil basis, a grind of this size should produce about 4.45 billion pounds of crude soybean oil. This compares with 4.3 billion in 1959-60 and about 9.5 million tons of soybean meal in contrast with 9.1 million last year.

Summer exports. Bean exports—moving at record speed so far this

season—are likely to taper off below last year's rate this summer. Exports for the whole marketing year have been estimated no higher than about last year or 141 million bushels owing to lack of supplies, and too high prices. Demand abroad will continue strong, regardless, owing to increased foreign comsumption and lagging imports of soybeans from Communist China. Principal takers of beans continue to be Western Europe, Japan, and Canada where beans are as much in demand as oil. Canada may reverse, however, and use less bean oil. As demand has increased, Canadian processors who use U. S. beans are upping their prices.

Japan import prospects. Foreign Agricultural Service reports tentative import figures of soybeans and meal planned by Japan. Japan faces a serious shortage of oilseed meals owing to the sharp growth of its commercial feed industry.

Some 20,000 metric tons (734,860 bushels) of beans for feed are being considered. An additional 126,000 tons (4.6 million bushels) of beans for the same purpose are expected to be imported through nongovernmental channels under a special authority that allows a lowering of the usual import duty.

To be sure of adequate supplies, also planned are imports of at least 70,000 tons of oilseed cakes through April 1961-March 1962. The schedule: 53,000 tons the first quarter. Of this, 29,900 tons have already been bought from the United States and an additional 1,000 tons from the U.S.S.R.

Is Neutral Fat Real Heart Disease Cause?

NEUTRAL FAT, not cholesterol as is generally believed, is the main malefactor causing arteriosclerosis or hardening of the arteries, according to a Japanese report. The conclusion is based on research carried on jointly by Nihon University (Japan) and the University of California. Neutral fat is an unfamiliar name but exists everywhere—it is the subcutaneous fat of plump persons, according to the report.

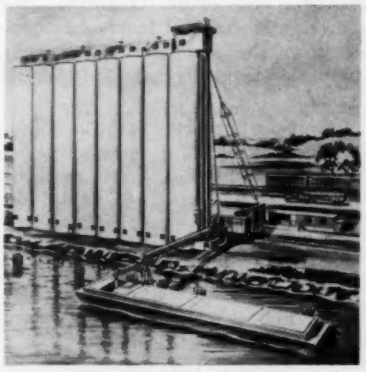
According to Prof. Kanzo Oshima, the neutral fat theory explains why in Japan, where the meat intake is low, the cerebral hemorrhage rate is the highest in the world. The Japanese are heavy rice eaters, and excess calories from the rice diet are turned into neutral fat. The Japanese do not have access to much cholesterol in their diet.

Lee County, S.C., Has Soybean Yield Contest

DON GRANT, Bishopville, won first place in the Lee County, S. C., soybean yield contest in 1960, with a yield of 52.62 bushels an acre. The contest is sponsored by the Peoples Bank of Bishopville.

Marion Mimms, Elliott, took second place with an average of 47.88 bushels. Yields of others of the top 10 winners ranged down from 47 to 39 bushels per acre.

Large Elevator At Waverly, Mo.



CONTRACTS FOR the general construction of Bartlett & Co.'s new 750,000-bushel elevator (shown above) at Waverly, Mo., were recently awarded to the Atlantic States Construction Co. Scheduled for completion before this summer's harvest, the caisson-type foundations and excavation work are already in progress under a separate contract awarded earlier to Grant Renne & Sons, Inc. Complete plans and specifications for the new Missouri River house were prepared by Weitz-Hettelsater Engineers of Kansas City.

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U. S. Exports Are Up

U. S. EXPORTS of soybeans and soybean oil from October 1960 through March 1961 increased sharply from the same period last year, U. S. Department of Agriculture reports.

Soybean exports, at 84.9 million bushels, were 12% larger than in the first 6 months of last year, reflecting the continuing strong demand from European buyers and reduced supplies of Chinese soybeans.

U. S. exports of cottonseed and soybean oils, at 553.3 million pounds, were almost 10% less than during the first half of last year and a third less than the record 814.2 million pounds shipped in October-March 1956-57. Over 55% of the total moved out under P. L. 480.

While exports of cottonseed oil dropped 45%, exports of soybean oil were a third larger than a year earlier. Heavy P. L. 480 sales to Spain, Greece, Poland, and Pakistan accounted primarily for the increase in soybean oil shipments.

Exports of oilseed cakes and meals in the first 6 months of 1960-61 were almost one-third less in volume than in 1959-60.

Mediterranean Olive Oil. Production of edible olive oil in the Mediterranean Basin is estimated at 1,192,000 short tons, almost 8% less than 1959-60 production, according to USDA. Upward revisions for Spain, Italy, and Portugal were partially offset by lower estimates for Greece and Turkey.

Total olive oil availabilities have been more than adequate since the beginning of the olive oil year in the two largest producing and consuming countries, Italy and Spain. But with carryovers dissipated during the first 6 months, imports into Italy and Spain should reflect the size of the domestic output more accurately than did the distribution earlier in the season, according to USDA.

West Germany. Use of edible vegetable oils in West Germany will continue to decline in 1961 as consumption of butter increases at the expense of margarine, with smaller imports of edible oils, says USDA. In 1960, the United States provided about one-third of Germany's total imports of vegetable oils.

Austria. Austria expects to import 84,200 short tons of edible vegetable oils in 1961, including 5,000 tons as oil-bearing materials, according to USDA. Imports in 1960 totaled 83,900 tons. Most imports are crude oil that requires further processing.

The upward trend in consumption reflects a shift in consumer demand from animal fats to vegetable oils. The current retail price of margarine is about one-third the price of butter.

Japan. Plantings of 1961-crop soybeans in Japan are expected to decline to 740,800 acres—17,550 less than the last year, according to USDA. Production is forecast at 14.3 million bushels—a million less than in 1960.

Japan's imports of soybeans in calendar 1961 are expected to be about 44.8 million bushels—3.4 million more than 1960 imports. Despite current food shortages in Mainland China, some trade sources expect that as much as 110,000 tons of 1960-crop Manchurian soybeans may be exported to Japan, in view of the need for foreign exchange.

Israel. Israel's supply of vegetable oil materials may total 227,000 short tons in 1960-61—a slight increase from the previous year, according to USDA. But domestic production of oil-bearing materials in 1961-62 is expected to be up sharply, chiefly due to a large olive crop.

Imports of vegetable oil materials, usually accounting for 85% of Israel's annual supply, are not expected to change materially in 1960-61. Soybean imports from the United States —exceeding 6 million bushels in 1959-60—account for most of the oil materials imported.

Suez Canal. Oilseed shipments through the Suez Canal from October 1960 through February 1961 were down 18% from the same period of 1959-60, the U. S. Department of Agriculture reports. Soybean shipments were only one-third the volume of the previous year, reflecting reduced availabilities from Communist China.

Trade sources indicated that March soybean shipments were 955,000 bushels, which would bring October-March shipments to 6,980,000 bushels against 22,600,000 bushels in the comparable period of the previous marketing year.

Pakistan. Per capita consumption of vegetable oils in Pakistan may exceed 4 pounds in 1961-62 owing to larger imports of U. S. cottonseed and soybean oils under P. L 480, says USDA. This is the lowest of any free world country. Pakistanis also eat about 3 pounds per capita annually of animal fat ghee.

Imports of U. S. soybean and cottonseed oils under P. L. 480 are expected to be up sharply from the 31,000 tons estimated for 1960-61.

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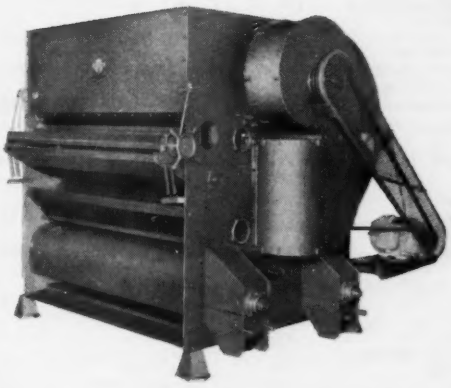

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IN THE MARKETS

EXPORTS. Preliminary data on U. S. exports of soybeans, soybean and cottonseed oils, and soybean and cottonseed cakes and meals for March 1961, with comparable data for March 1960 and cumulative totals for October-March in the marketing years 1959-60 and 1960-61, by USDA's Foreign Agricultural Service.

	Unit	March 1960[1]	March 1961	October-March[1] 1959-60	October-March[1] 1960-61
Soybeans	bu.	7,168,153	8,480,745	75,770,062	84,924,176
Soybean oil:					
Crude	lb.	32,496,598	4,986,013	159,396,361	249,181,794
Refined but not further processed	lb.	4,530,955	3,971,372	39,819,546	28,526,315
Refined, deodorized and hydrogenated	lb.	15,304,112	2,759,428	66,083,941	84,313,352
Cottonseed oil:					
Crude	lb.	28,103,883	14,259,805	214,570,235	134,169,267
Refined but not further processed	lb.	9,948,490	3,674,676	107,542,588	34,977,611
Refined, deodorized and hydrogenated	lb.	4,264,215	6,397,777	16,849,832	22,129,375

[1] Includes any revisions made by the Bureau of the Census.

Soybeans: Inspections for export by ports and areas, April 1961 (1,000 bu.)

Cottonseed cake and meal	s.t.	1,639	1,273	119,538	36,203
Soybean cake and meal	s.t.	38,906	51,497	412,093	338,538

Lake Ports		Gulf	
Duluth	56	Mobile	567
Superior	133	New Orleans	4,399
Toledo	361	Port Allen	1,303
Subtotal	550	Subtotal	6,269
Atlantic		Totals	
Philadelphia	200	April 1961	8,685
Baltimore	1,205	Jan.-Apr. 1961	36,718
Norfolk	461		
Subtotal	1,866	Jan.-Apr. 1960	31,202

Based on weekly reports of inspections for export by licensed inspectors and does not include rail and truck movement to Canada or Mexico. Agricultural Marketing Service.

Soybeans: Inspections for export by coastal areas and country of destination April 1961 (1,000 bu.)

Lake Ports		Gulf	
Canada	494	Denmark	106
Netherlands	56	Netherlands	498
Subtotal	550	Belgium	57
Atlantic		West Germany	1,084
Norway	319	Taiwan (Formosa)	182
Netherlands	211	Japan	4,283
Belgium	187	Other	59
West Germany	331	Subtotal	6,269
Poland	676	Grand total	8,685
Japan	40	Total Jan.-Apr. 1961	36,718
Other	102	Total Jan.-Apr. 1960	31,202
Subtotal	1,866		

Based on weekly reports of inspections for export by licensed inspectors and does not include rail or truck movement to Canada or Mexico. In some cases, the ultimate destination of the soybeans exported is not shown on the inspection reports. Therefore, the quantity for each country may vary from official Census data which are based on custom declarations. Agricultural Marketing Service.

Soybeans: Barge inspected receipts and shipments by midwest river markets, March 1961 and 1960 (1,000 bu.)

Receipts	1961	1960		1961	1960
Chattanooga	550	225	Springfield	121	86
Guntersville	670	42	Cairo	123	40
Chicago	773	174	Alton	122	42
St. Louis	43	—	St. Louis	893	739
New Orleans	2,143	1,857	Henderson	81	41
Mobile	132	—	Evansville	238	26
Port Allen	1,154	1,141	Kankakee	315	285
Cairo	44	—	Keokuk	120	48
Total (March)	5,509	3,439	Davenport	44	—
Total (May-March)	76,032	68,551	Stoneville	—	110
Shipments			Memphis	254	140
Minneapolis	269	—	Burlington	44	—
Peoria	77	42	Total (March)	2,701	1,599
			Total (May-March)	39,836	31,087

Title I, P. L. 480 exports for July 1960-April 1961

	April 1961		July 1960-April 1961	
	Metric tons	Pounds	Metric tons	Pounds
Cottonseed oil	5,346	11,786,000	28,426	62,668,000
Soybean oil	6,506	14,344,000	236,593	521,598,000

Foreign Agricultural Service, U. S. Department of Agriculture.

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Headquarters

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Overseas Office
Via Parigi 11 - Rome, Italy

IN THE MARKETS

Soybeans: Barge inspected receipts and shipments by midwest river markets, April 1961 and 1960[1] (1,000 bu.)

	1961	1960		1961	1960
Receipts			Cairo	241	201
Chattanooga	76	1,053	Alton	40	—
Guntersville	983	—	St. Louis	1,026	500
Chicago	665	215	Omaha	—	134
New Orleans	2,380	1,566	Henderson	42	—
Mobile	235	—	Evansville	88	39
Port Allen	581	532	Kankakee	27	225
Total (April)	4,920	3,366	Keokuk	36	40
Total (May-April)	80,952	71,917	Davenport	43	—
Shipments			Kansas City	122	41
La Crosse	—	135	Stoneville	292	388
Minneapolis	873	2,198	Memphis	210	138
Peoria	190	72	Total (April)	3,466	4,139
Springfield	176	28	Total (May-April)	43,302	35,226
St. Joseph	60	—			

[1] Includes a small quantity of soybeans not inspected.

Oilseed cake and meal: U. S. exports and imports, March 1961 (tons)

	Monthly			Season to date		Season
	March 1961	February 1961	March 1960	Oct. 1960-Mar. 1961	Oct. 1959-Mar. 1960	Oct.-Sept. 1959-60
Exports						
Soybean	51,497	39,695	38,906	339,738	412,093	652,300
Cottonseed	1,273	2,748	1,639	36,203	119,538	140,196
Linseed	0	19	414	26,178	48,254	62,574
Imports						
Copra	611	411	852	2,818	2,420	8,197
Cottonseed	1,482	4,805	6,425	21,878	24,122	32,345
All other	265	465	180	1,005	1,767	2,359

Bureau of the Census.

Soybean cake and meal: U. S. exports by country of destination, October-March 1960-61 and 1959-60 (tons)

	Oct. 1960-Mar. 1961	Oct. 1959-Mar. 1960		Oct. 1960-Mar. 1961	Oct. 1959-Mar. 1960
Canada	87,534	106,146	Netherlands	45,852	63,540
Mexico	7,762	5,725	France	17,829	8,390
Cuba	5,300	10,681	West Germany	40,456	58,828
Venezuela	3,527	3,409	Spain	220	18,029
Sweden	30	2,044	Italy	6,415	24,337
Norway	9,879	4,900	Australia	4,844	—
Denmark	27,937	9,775	Philippines	9,099	5,561
United Kingdom	202	878	Israel	1,200	—
Ireland	—	1,653	Japan	19,645	240
Belgium and Luxembourg	40,369	58,806	Other	11,638	29,151
			Total	339,738	412,093

Bureau of the Census.

EXPORT ORDERS. U. S. Department of Agriculture announced the following purchase authorizations and agreements for U. S. soybeans and soybean products under Public Law 480:

Apr. 28, a $30.4 million Food for Peace agreement with Yugoslavia, including $8.7 million worth of soybean or cottonseed oil (about 58 million pounds).

May 5, 11-42 to Yugoslavia under Apr. 28 agreement, to finance purchase of up to $8.7 million worth of soybean or cottonseed oil (about 26,000 metric tons). Sales contracts between May 12 and July 31, and delivery between May 12 and Aug. 31.

May 11, agreement with Israel providing for sale of $6.7 million worth of soybean oil or cottonseed oil (about 41.9 million pounds) along with other commodities under the Food for Peace program. Payment in Israeli pounds.

May 12, 16-84 to Israel under May 11 agreement, provides for purchase of $3.1 million worth (about 9,500 metric tons) of cottonseed oil or soybean oil in bulk, sales contracts to be made between May 19 and Aug. 31, shipments between May 19 and Sept. 30.

International Cooperation Administration on May 10 amended three purchase authorizations covering sale of soybeans to France to extend contracting periods and terminal delivery dates as follows: PA 138-0509-000-0106, contracting period from Dec. 31, 1960, to Aug. 31, 1961; terminal delivery date from Mar. 31, 1961, to Oct. 31, 1961; PA 138-0509-000-0106 and PA 138-0509-000-0110, contracting period from Dec. 31, 1960, to Aug. 31, 1961, and terminal delivery date from Mar. 31, 1961, to Oct. 31, 1961.

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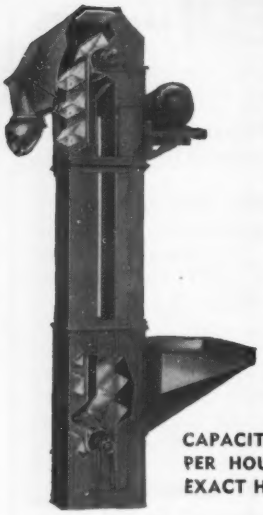

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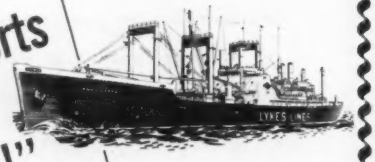

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IN THE MARKETS

PROCESSING OPERATIONS. Reported by Bureau of the Census for March and April.

Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stock, April 1961-March 1961 (1,000 short tons)

	Production		Shipments and transfers		Stocks end of month	
	April 1961	March 1961	April 1961	March 1961	April 30, 1961	March 31, 1961
Soybean:						
Cake and meal	758.9	801.7	721.0	786.9	216.3	178.4
Millfeed (hull meal)	14.9	15.5	13.7	12.8	8.9	7.7

Soybeans: Net receipts, crushings, and stocks at oil mills, by states, April 1961-March 1961 (1,000 short tons)

	Net receipts at mills[1]		Crushed or used		Stocks at mills	
	April 1961	March 1961	April 1961	March 1961	April 30, 1961	March 31, 1961
U. S.	676.0	708.5	988.9	1,043.9	2,607.4	2,920.3
Arkansas	(2)	(2)	(2)	(2)	(2)	(2)
Illinois	211.1	283.4	291.4	303.4	607.6	687.9
Indiana	72.4	59.0	73.5	99.5	232.0	233.2
Iowa	168.2	121.2	172.3	170.6	325.9	330.1
Minnesota	51.9	52.2	55.2	68.6	124.2	127.5
Mississippi	5.7	7.7	47.3	45.3	87.8	129.4
Missouri	(2)	(2)	(2)	(2)	(2)	(2)
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)
North Carolina	2.7	8.2	16.1	15.6	67.1	80.5
Ohio	53.2	48.0	85.4	77.0	222.0	254.1
Tennessee	13.4	51.1	67.5	72.8	302.7	356.8
All other	97.4	77.7	180.2	191.1	638.1	720.8

Note: Detail figures may not add to totals because of independent rounding. [1] Net receipts for each state are derived from the quantity of beans crushed and net change in stocks. [2] Included in "All other" to avoid disclosure of figures for individual companies.

Soybean products: Production and stocks at oil mill locations, by states, April 1961-March 1961

	Crude oil (millions of pounds)				Cake and meal (thousands of tons)[1]			
	Production		Stocks		Production		Stocks	
	April 1961	March 1961	April 30, 1961	March 31, 1961	April 1961	March 1961	April 30, 1961	March 31, 1961
U. S.	362.9	381.1	112.6	87.7	773.8	817.2	225.2	186.1
Arkansas	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Illinois	110.0	113.4	37.1	26.8	222.3	231.2	63.3	48.0
Indiana	26.3	36.1	7.1	(2)	58.2	78.9	(2)	(2)
Iowa	62.0	61.0	17.8	12.3	139.0	137.2	35.7	27.1
Minnesota	19.9	24.4	5.6	5.9	42.8	53.6	5.5	3.8
Mississippi	17.2	16.8	3.9	2.6	35.8	35.4	10.8	10.0
Missouri	(2)	(2)	(2)	(2)	(2)	(2)	5.5	2.3
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
N. Carolina	5.5	5.3	1.9	1.5	12.7	12.4	2.5	1.8
Ohio	31.1	27.9	7.7	4.4	69.0	62.0	7.5	6.1
Tennessee	25.2	26.8	9.7	6.8	52.9	56.7	6.8	6.2
All other	65.7	69.4	21.8	27.4	141.1	149.8	87.6	80.8

Note: Detail figures may not add to totals because of independent rounding. [1] Includes mill feed (hull meal). [2] Included in "All other" to avoid disclosure of figures for individual companies.

FACTORY USE VEGETABLE OILS for February and March 1961. Reported by Bureau of the Census.

Selected edible oils: Production, consumption, and factory and warehouse stocks (million lbs.)

	Cottonseed oil		Soybean oil	
	Mar. 1961	Feb. 1961	Mar. 1961	Feb. 1961
Production:				
Crude oils	163.5	179.0	381.1	*377.6
Refined oils (once refined)[1]	166.9	149.0	307.6	298.5
Consumption in refining[1]	181.2	161.6	320.0	310.2
Consumption in selected edible and inedible products, total[2]	124.4	118.6	284.2	280.8
Consumption in edible products, total	124.0	118.2	267.0	266.3
Baking or frying fats	38.3	35.8	102.8	94.1
Salad or cooking oil	67.9	65.2	78.9	74.5
Margarine	16.7	16.7	82.5	95.9
Other edible products[3]	1.1	0.5	2.8	1.8
Stocks, end of month, total[2]	448.7	463.4	706.6	*596.4
Crude oils	134.8	164.6	419.8	*362.3
Refined oils	313.9	298.8	286.8	234.1

* Revised. [1] Production of refined oils covers only once-refined oil. Degummed soybean oil is reported as crude oil. [2] Includes hydrogenated fats (vegetable and animal) and other fats and oils "in process," (e.g. refined cottonseed includes stocks of stearin). [3] Includes confectioners fats.

IN THE MARKETS

Consumption of vegetable oil foots in fatty acids (million lbs.)

Total consumption[1]				Used in fatty acids				Percent used in fatty acids			
March		Cum.: Jan.-Mar.		March		Cum.: Jan.-Mar.		March		Cum.: Jan.-Mar.	
1961	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961	1960
11.4	12.7	30.4	33.7	6.8	7.7	18.6	20.8	60%	61%	61%	62%

[1] Excluding amounts consumed in refining. U. S. Bureau of the Census.

SUPPLY, DISTRIBUTION of soybeans for the 1957-60 crop years, from Agricultural Marketing Service (1,000 bushels).

	1960-61	1959-60	1958-59	1957-58
Carryover, Oct. 1	23,209	62,117	21,803	9,897
Production	558,778	533,175	579,713	483,715
Total supply[1]	581,987	595,292	600,796	493,612
Farm use, including seed for season	35,000	39,000	28,000	34,000
Quantity remaining for processing, export, or carryover	544,987	556,292	572,796	459,612
Disappearance, Oct. 1 through April:				
Crushed for oil or processed[2]	250,633	237,580	242,682	206,250
Exported	[3]93,423	83,896	70,187	59,231
Total	344,056	321,476	312,869	265,481
Balance on May 1 for processing, export, or carryover	202,931	234,816	259,927	194,131

[1] Imports not included because negligible. [2] No allowance is made for new-crop crushings prior to Oct. 1. [3] Estimated.

INSPECTIONS. Inspected soybean receipts, by grades and percent, reported by Agricultural Marketing Service.[1]

	April 1961[2]		March 1961		April 1960		October 1960-April 1961		October 1959-April 1960	
	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.	1,000 bu.	Pct.
No. 1	6,113	30	7,523	29	4,721	22	90,185	26	52,757	18
No. 2	8,570	42	12,479	47	11,789	55	161,633	46	143,619	50
No. 3	3,743	19	3,999	15	3,565	17	66,753	19	64,776	23
No. 4	1,453	7	1,486	6	920	4	24,545	7	18,198	6
Sample	386	2	855	3	494	2	7,761	2	8,207	3
Total	20,265	100	26,342	100	21,489	100	350,877	100	287,557	100

[1] Carlot receipts have been converted to bushels on the basis that one carlot equals 1,800 bushels. [2] Of the April receipts 2,400 bushels were black, 4,100 mixed and the remainder yellow soybeans. Inspections of soybeans in April included 5,034,000 bushels as cargo lots, 1,779,878 bushels as truck receipts, and the balance as carlot receipts. Based on reports of inspections by licensed inspectors at all markets.

MELLORINE. U. S. production of mellorine and other frozen desserts made with fats and oils other than milkfat was estimated at 4,110,000 gallons in April, according to the crop reporting board.

Production of "mellorine-type" frozen desserts, United States, 1961

	1955-59 average[1]	1959[1]	Estimated 1960	1961	Change from: 1955-59 av.	Change from: 1960
	Thousand gallons				Percent	
January	2,016	2,273	2,595	2,900	+44	+12
February	2,192	2,464	2,920	3,205	+46	+10
March	2,810	3,360	3,400	4,040	+44	+19
April	3,079	3,618	3,915	4,110	+33	+ 5
4-month total	10,097	11,715	12,830	14,255	+41	+11

[1] From enumerations.

TERMINAL STOCKS of soybeans. Includes all soybeans in public elevators including government-owned stocks. By Agricultural Marketing Service (1,000 bushels).

U. S. soybeans in store and afloat at domestic markets

	May 2	May 9	May 16	May 23
Baltimore	599	560	570	465
Buffalo	137	137	137	137
Chicago	13,939	13,047	12,812	12,269
Des Moines	23	23	23	23
Duluth-Superior	3,234	3,014	2,839	2,316
Indianapolis	1,113	1,073	1,006	905
Kansas City	3,050	2,937	2,874	2,690
Milwaukee	203	203	203	203
Minneapolis	2,279	2,135	1,945	1,793
New Orleans	1,118	1,070	1,201	1,377
Afloat	270	640	200	400
Omaha-Council Bluffs	1,337	1,280	1,148	933
Peoria	71	71	73	44
Philadelphia	74	73	114	132
Sioux City	780	784	697	703
St. Louis	2,974	2,855	2,734	2,700
Toledo	5,093	4,985	4,142	2,903
Grand totals				
This week	36,304	34,887	32,718	29,993
Year ago	22,871	22,101	20,114	18,950
Total Chicago soybean stocks	13,939	13,047	12,812	12,269

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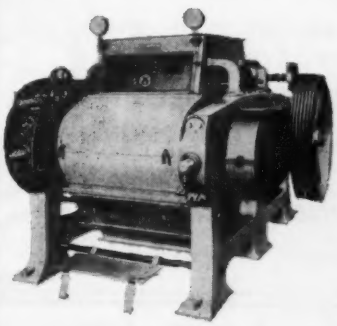

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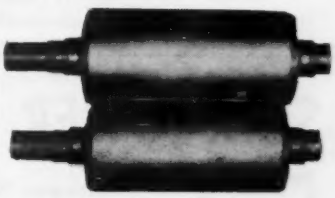

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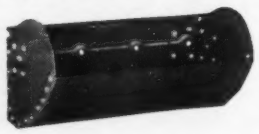

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IN THE MARKETS

PRICES. Average price for soybeans received by farmers, effective parity, and support rates, reported by Agricultural Marketing Service (dollars per bushel).

Average farm price			Effective parity	Av. price as percent of parity	National average price support rate		
Apr. 15, 1961	Mar. 15, 1961	Apr. 15, 1960	Apr. 15, 1961	Apr. 15, 1961	1961 crop	1960 crop	1959 crop
3.02	2.68	2.02	2.90	104	2.30	1.85	1.85

Average farm and parity prices from crop reporting board.

Soybean prices compared with market value of soybean oil and meal

	Soybean oil		Soybean meal		Value of oil and meal from bushel of soybeans[1]	Market price No. 1 yellow soybeans Ill. pts.	Spread between soybean price and value of oil and meal
	Average price at crushing plant	Value from bu. of soybeans[1]	Bulk price at Decatur	Value from bu. of soybeans[1]			
	Cts. per pound	Dollars	Dollars per ton	Dollars	Dollars	Dollars per bu.	Cents
Apr. 1961[2]	13.3	1.46	73.10	1.72	3.18	3.12	6
Mar. 1961	13.0	1.43	64.45	1.51	2.94	2.88	6
Feb. 1961	12.1	1.33	61.50	1.45	2.78	2.66	12
Jan. 1961	10.8	1.19	55.20	1.30	2.49	2.39	10
Dec. 1960	9.9	1.09	51.25	1.20	2.29	2.15	14
Apr. 1960	7.9	0.87	56.50	1.33	2.20	2.11	9

[1] Based on assumption that a bushel of soybeans yields 11 pounds of oil and 47 pounds of meal. [2] Preliminary. Note: This table is for statistical comparison only. It does not reflect actual operating margins since prices are simple averages and do not take into account location differentials or actual purchases and sales of soybeans, soybean oil or soybean meal. Agricultural Marketing Service.

PRICE SUPPORT. Price support activities on 1960-crop soybeans through Apr. 30, 1961, reported by U. S. Department of Agriculture.

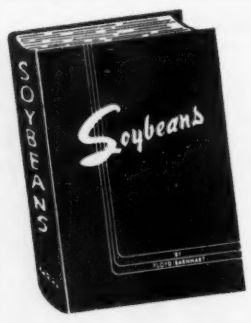
Warehouse and farm loans			Purchase agreements	
Total under loan	Quantity repaid	Quantity delivered	Quantity under agreements	Quantity delivered
25,368,717	22,092,222	8,357	245,982	0

Through April, farmers had repaid loans on 22,092,222 bushels of the 25,614,699 bushels of soybeans put under support. Most repayments were in the following states: Ark., 849,730 bu.; Ill., 3,692,047 bu.; Ind., 996,470 bu.; Iowa, 7,772,703 bu.; Minn., 3,893,603 bu.; Mo., 1,971,214 bu.; and Ohio, 703,825 bu.

Soybeans: CCC dispositions[1] (1,000 bu.)

Domestic sales and dispositions		Other domestic	5
By CSS commodity offices		Donations	0
Non-storable country warehouses	0	By ASC county offices	
		Non-storable bin site	3
Non-storable track and terminal	2	Statutory minimum[2]	794
Statutory minimum[2]	7,542	Total dispositions	8,346

[1] Oct. 1, 1960-Apr. 28, 1961. [2] Sold for domestic or export use at announced prices.



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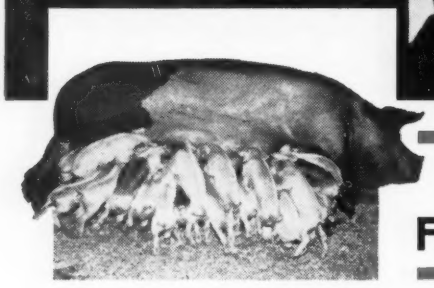

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